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particulars of subscriptions, advertisements, &c., see the centre of the book.



The latest pharmaceutical examinations showed results which strike terror into many candidatal hearts. Of eight who entered themselves for the major, only one failed; but out of candidates who presented themselves for the minor, only attained their object. This catastrophe throws in the shade the equally lamentable result of the preliminary contest. In all, out of 355 candidates, 186 failed and 169 passed. In London rather better results occurred in this examination. Out of 12 candidates, 26 passed and 16 failed.

We cannot fully endorse the comments on the Minor Examination which we publish in this number, written by "An Experienced Pharmacist." Considering that the object is to ascertain a man's fitness for the duties of a chemist and druggist, we should advocate a considerable latitude to examiners, and we are not sure that the real remedy against such anomalies as are pointed out by our correspondent would not be to make the regulations rather more vague than more definite.

The Council meeting on May 6 was not remarkable for any striking proposition. Mr. Mackay cleared up the question put forth last month by Mr. Williams as to the removal of the North London Branch to other quarters. He explained that the new premises would be far more eligible and 10% a-year less rent. Mr. Williams and everybody else were perfectly satisfied. A cordial resolution, expressing the deep regret of the Council at the loss of Mr. Henry Deane, was proposed by the president and seconded by the vice-president. Those gentlemen and Mr. Sandford were appointed a committee to write a letter of sympathy to Mrs. Deane. Professor Bentley and Dr. Porter were elected honorary members of the Society. Some resolutions were made by the Parliamentary Committee in reference to the amendment of the Adulteration Act. It was recommended that the Society should endeavour to secure a meeting before the select committee now sitting on the subject, to point out the difficulty in regard to drugs, which it is almost impossible to obtain absolutely pure. The committee also considered the question of guilty knowledge one of the most important points to be insisted upon. A "central board" was advised to guide inspectors as to the selection of cases for prosecution. Mr. Mackay reported that the Lord Advocate, Dalkeith, and Mr. McLaren, M.P., had promised to take steps to extend to Scottish chemists and druggists the favour of exemption from jury service, if such were granted to English chemists. Some correspondence had been received, from which it appeared that the Coroner of Lincoln had urged the president of the Medical Council to add chloral hydrate to Part II. of the Schedule A, thus branding it as a poison in the second degree. It did not occur whether this suggestion was likely to be carried into effect. Mr. Schacht's idea of additional scholarships was transferred to the general meeting.

The attendance of members of council at the regular meetings has been published. There have been 14 meetings, of which Mr. Robbins has attended 14; Messrs. Betty, Sandford, Urwick, and Williams, 13 each; Messrs. Bottle, Greenish, Hampson, Hills, and Savage, 12 each; Messrs. Owen and Radley, 11 each; Messrs. Baynes and Schacht, 10 each; Messrs. Atherton, Shaw, Stoddart, and Sutton, 9 each; and Messrs. Brown, Frazer, and Mackay, 6 each. Messrs. Bottle, Greenish, Hampson, Hills, Sandford, and Williams, have also each scored 50 attendances, or over, at committee meetings.

A serious strike has occurred in nearly all the large chemical works on the Tyne. Notice had been given by the masters of a reduction of ten per cent. in the rate of wages, and several thousands of the operatives struck work. The depressed state of the trade gives the masters a great advantage, added to which the men have no union, so there is every prospect of an early settlement.

We are informed that a local committee has been formed to make arrangements for the meeting of the British Pharmaceutical Conference in London next August. The Council of the Pharmaceutical Society has offered its premises for the use of the Conference. We understand that it has been decided to hold an exhibition of articles of interest to pharmacists.

The Juries' Bill was read a second time in the House of Commons on April 22. It has been twice set down for committee since, but has been postponed.

The Hackney Vestry reminds one of the well-known story of Colonel Jackson and the 'coon. "Don't shoot, Colonel, I'll come down," summarises the concluding episode in the history of some "milk of sulphur" summonses recently issued by that honourable body, but withdrawn when it became known that Mr. Wontner had been engaged to defend the case.

Irish pharmaceutical affairs are just now particularly interesting. The Company of Apothecaries and the College of Physicians both offer Bills to rectify the present anomalous regulations by which only medical men can at present fully practise pharmacy in Ireland. The animosity existing between these two bodies is likely to ensure the completion of the struggle, but the Apothecaries' Company has lost the sympathy of the druggists by a policy which scarcely proves its good faith.

Next week will occur the annual meeting of the Pharmaceutical Society in London. On Tuesday evening, the dinner at the Crystal Palace; on Wednesday morning, the meeting at Bloomsbury Square; and on Wednesday evening the grand parade at South Kensington.

The Council's Report, to be presented to the meeting, puts forward as especial subjects of discussion Mr. Schacht's proposal of additional scholarships, and the increased efficiency of the Benevolent Fund.

Our Student's Prize of this month has been carried off by the invincible medallist, Sidney Plowman. Other students must be proud of second place when Mr. Plowman competes.

The portrait of Professor Atfield, which appears this month, is a particularly happy one. Our series now includes all the professors at Bloomsbury Square, as well as the President of the Pharmaceutical Society. If these portraits had been issued in China or Peru we should certainly have seen some notice of them in the journal of the Society thus complimented. Their origin in Cannon Street, however, is fatal to such an anticipation. What a curious world it is!

W. H. Smith, Esq., M.P., has resigned the presidency of the National Chamber of Trade, in consequence of his ap-



pointment to the office of Financial Secretary to the Treasury. The committee, in accepting the president's resignation, have expressed their great regret at losing his valuable services, and, in acknowledging their value, say that they have every reason to believe that his present official position will be most beneficial to the trading interests of the country. Sir Sydney Waterlow has accepted the vacant presidentship.

Faith in analytical chemistry is hardly likely to survive the continual disputes which the adulteration prosecutions have revealed among its professors. Lord Portman, as chairman of the Dorsetshire bench of magistrates, is reported to have expressed a hope that that county would not do as Somerset had done, "which had appointed at 100*l.* a year a man at Bristol who would not be wanted." Rather than that, his lordship was content that they should "have a little water in their milk, or a little turmeric in their mustard, as they had been subject to for years past." So while Somerset goes on paying 100*l.* to "the man at Bristol," Dorset keeps its cash, swallows its dirt, and rejoices.

The discussion of the Additions to the Pharmacopœia at Bloomsbury Square, opened in April by Mr. Umney, was resumed on May 6. A clever, but somewhat extravagantly bitter, criticism by Mr. E. Smith, of Torquay, commenced proceedings, and a really able debate was wound up by Professor Redwood, whose defence of the Appendix was singularly happy and vigorous. In a pharmaceutical sense, the criticisms generally answered each other; the blemishes of one speaker were to the next the redeeming features of the work. Every pharmacist admits that the little work contains *something* useful, so that on the whole, with a few imperfections, it may fairly be regarded as a success. But, with all deference to Dr. Quain, who sent a special manifesto rebuking the audacity of pharmacists in venturing to criticise the work in any but favourable tones, the debate proved above all things the competence of a fair proportion of the members of our profession to take part in the compilation of such a work, and the desirability of so associating theirs with the too purely medical influence which prevails.

#### PROFESSOR ATTFIELD.

ONCE a month, on Monday evening, a set of young chemists used to assemble in a room kindly lent them by the Council of the Pharmaceutical Society; Professor Redwood, the only senior in their midst, presided over their discussions. Many members of this Association have risen since to eminence. Mr. John Williams read the first paper; Mr. Gale, the treasurer, gave an elaborate sketch of the composition of the syrups of the phosphates; Mr. C. H. Wood, who has received the honour of an appointment as Quinologist to the Government in India, was a most active contributor; and others have sat as councillors at the very table round which they gathered when they ventured—not without apprehension—on their opening chemical speculations. The meetings held were as agreeable as they were instructive, and continued for about eight years (1858–1866). Inevitable circumstances dispersed the original associates. They were scattered in various directions, yet, though short had been their companionship, lasting benefit had been derived. It was before this assembly that John Attfield communicated his first effort at research, on "The Solubility of Mercurial Precipitates in Alkaline Salts," which was printed afterwards in the *Chemical News*; and there it was that the subject of this brief memoir made the acquaintance of many, destined to be the friends of his after life.

About twenty-five years ago he was apprenticed to Mr. William Frederic Smith, a pharmaceutical chemist, at Walworth, in whose house he was a pupil for five years. During the concluding portion of the term he spent a session at the School of Pharmacy, rising at six o'clock, to be in readiness for the lectures, which then began at eight. Laboratory work lasted till five o'clock, after which there were the shop duties till ten or eleven, as usual. In the summer months the course on botany was delivered at the gardens in Regent's Park. Still earlier hours were necessary; and while we chronicle the fact historically, we regret none the less this unwise, though unavoidable, extension of labour.

In spite, however, of these protracted hours, he contrived to pass the Minor Examination with honours, and took all the prizes obtainable at that time, namely, the medals in Chemistry and Pharmacy, Botany and Materia Medica. He also offered to present himself as a candidate for the Major, but in vain, being disqualified by age, or rather by its want, a personal fault which we hope he may long be spared to correct.

As the period of his apprenticeship progressed, his predilection for chemistry daily ripened, and an opportunity occurred to gratify his taste. Dr. Stenhouse, the Professor of Chemistry in the medical school at St. Bartholomew's Hospital, desired a junior assistant, which place was offered to Mr. Attfield, and in October, 1854, he entered on his new position. During this period he gave great satisfaction in conducting the Practical Class, and assisting in numerous investigations. The day was devoted to public duties, and the evening either to the study of quantitative analysis or to much-needed private recreation. Subsequently, for five years, Mr. Attfield was Demonstrator of Chemistry under Dr. Frankland, and drew up a manuscript "Course of Practical Chemistry" for the use of the pupils committed to his care.

More ambitious views began to be entertained, and, both by way of practice and with the desire of self-improvement, he commenced lecturing at schools and institutes. The first venture was made on May 3, 1855, at Holloway, before the students and friends of his old schoolmaster, the Rev. Alexander Stewart, of Barnet. The subject was "Air," and the discourse was two hours in duration. No wonder that the lecturer felt fatigued, and that some of the audience showed signs of weariness. Since then our Professor has become a wiser, though not a sadder man, for his tendencies are not in the direction of the gloomy. But let this be a warning to all aspiring lecturers, that one hour is ample time for even Demosthenes to exclaim attention from his audience.

A red-letter day was now marked in the calendar of Mr. Attfield. Dr. Stenhouse was ill, and the deputy happened to be absent, so it fell to the lot of the youthful philosopher to deliver his first regular lecture to the students of his hospital. His success was perfect, and realised his most sanguine aspirations. More lectures followed at scientific institutions, on "Light" and other subjects; but their delivery became distasteful to him, because he found that mixed audiences were bent more on amusement than on solid information. A change was rapidly approaching, for which the production of the contributions to the Chemical Association formed an excellent preparation. Meanwhile, overwork, thoughtlessly continued brought on illness; and during the first four months of 1857 typhus fever, followed by distressing consequences, precluded the slightest mental or bodily exertion. In May, however, he was able to return to his duties at St. Bartholomew's, and he prepared the experimental illustrations for a course of evening lectures on chemistry and physics, given by Dr. Frankland to the cadets at the Addiscombe Military College. His spare time was now devoted to the writing of more than 200 articles for the arts and science division of the "English Cyclopædia." The average length of each article was a whole column, or his

THE CHEMIST AND DRUGGIST PORTRAIT GALLERY.

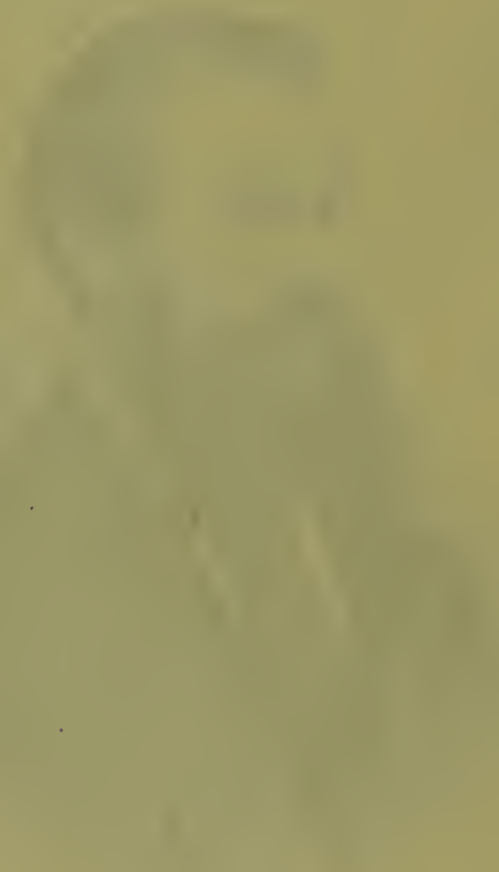
IX.



Yours faithfully  
John Attfield

PROFESSOR ATTFIELD.





uarto page. Among the most important were notices on naphthalene, coal tar, essential oils, mercury, volumetric analysis, and the alkaloids of cinchona, nuxvomica, and opium.

Next we meet with nine subjects which involved original research, one of which considerably increased his reputation. It was on the "Spectrum of Carbon," and was read at a meeting of the Royal Society, June 19, 1862. An abstract was published in the "Proceedings," and the whole paper was honoured with a place in the "Philosophical Transactions," while at the request of Faraday the spectrum was shown to himself and a number of other distinguished savants.

In January, 1862, Mr. Attfield was elected Fellow of the Chemical Society, and in the same year made his first appearance as an analyst in a court of law in a case of poisoning by strychnia.

In the summer of 1862 he was appointed to the position he now enjoys in connection with the Pharmaceutical Society. The appointment was hotly contested, specially by three others not unknown to fame; and we need hardly mention how well his subsequent career has justified the choice then made. At the request of his public friends he betook himself to Germany in order to obtain the degree of Doctor of Philosophy. The university selected was that of Marburg, where Frankland and Tyndall both executed their studies. The want of a colloquial knowledge of German, however, proved some hindrance to examination, except so far as Chemistry and Physics were concerned, Professors Kolbe and Girling being able to examine in the English language. Arrangements were consequently made at the University of Tübingen, where the degree was bestowed with highly complimentary remarks on the original research submitted by the candidate to the examiners. The paper on "Carbon Spectrum" was characterised as "a very valuable and substantial enrichment of the youthful chemically and philosophically associated subject of spectral analysis."

From henceforth Dr. Attfield commenced work as one of the officers of the Pharmaceutical Society, where he has ever since endeavoured to develop and cultivate the powers of thought and reason in his pupils, leaving memory as likely to be only too well exercised by surrounding circumstances. His mode of instruction has had one object constantly in view—to encourage the student, when once sure of a competent knowledge of general principles, to think out their application for himself.

Professor Attfield (for this title was soon conferred by the Council of the Society) now began to elaborate the manuscript, or index of work, which he had prepared at St. Bartholomew's, and which was to include the principles of chemistry and all deemed important as regards practical chemistry that a pharmacist should know of the relations of the science to his calling. In 1867 he was sufficiently satisfied with his labours to arrange them in the definite form of a manual. Within five years, five editions of the book were required, being an aggregate of more than 5000 copies. The work is familiar to us all, and it has been adapted, in distinct special editions, to meet the wants of the medical profession.

It has been objected to this publication that it is too fragmentary in its arrangement; and as the remark has been often uttered, we may pause for a moment to describe the real intention of the construction. The observation has a certain amount of correctness with regard to the first edition, which was intended only as a laboratory guide, to be used in combination with other established works of reference. The author was diffident of his powers, and too limited in his scope. There was too much skeleton and too little filling up. The result somewhat resembled learning botany from a *hortus siccus*; but the defect was immediately remedied, and all subsequent editions were enriched by wise enlargement and the fullest amplifications. The manual was never intended so much as a book of reference, but as a work for individual and special study.

Almost any of its divisions may be worked out separately with equal advantage to the learner, and in this manner its apparent want of continuity is admirable. We should be sorry to see it altered in any respect, except so far as the ever-advancing revolutions of chemistry may require. The difficulty of any positive arbitrary arrangement is constantly recognised in its pages. When, for instance, we talk of basylons or acidulous radicals, we do so for the sake of convenience, not as the expression of an absolute truth. We are in this matter just as correct, and as incorrect, as when we mention certain bodies as elements which another, or even this generation, may discover to be compounds; and the wisest amongst us could not say with confidence where synthesis and analysis begin or end. The terms are convertible, and depend for their significance upon attendant circumstances. We believe that no better guide has been offered by which the student may safely make himself master of the practice and theory involved in the science of chemistry.

In 1863 the British Pharmaceutical Conference was started. During the summer of that year Messrs. Brady and Reynolds thought the time had come for carrying out Mr. Schacht's suggestion, which was made some time before, of holding annual conferences on pharmacy in the provinces. A circular inviting co-operation was drawn up, and despatched to leading pharmacists in the chief towns. A meeting to take the matter into consideration was held at Newcastle-on-Tyne on September 1, at the same date as the assembling of the British Association. Twenty-one gentlemen met together at Baker's Hotel. The late Henry Deane was chairman. Professor Bentley proposed, Professor Attfield seconded, and Mr. Groves supported the original resolution which gave the title to the new-born Association. The constitution of the organisation was formally arranged, and the first annual meeting was held at Bath. Professor Attfield became the senior secretary—being associated with Richard Reynolds; and when the latter was compelled to retire from active duty he made the following avowal at Edinburgh, which deserves to be recorded:—

"My fellow members have a right to the statement which I now desire to make respecting the past management of the Conference. The general direction of its affairs has been in the hands of Professor Attfield; and month by month, and year by year he has devoted his valuable time to its general guidance, and not less to the performance of the minute duties of routine, with a constancy, forethought, and method that has been simply perfect."

When the number of the members had risen to above 600, the publication of the "Year Book of Pharmacy" was agreed upon, and it was then only possible to conduct the general work of the Conference by combining the departments of correspondence and finance, and placing them under the charge of a single officer, in the person of Professor Attfield. The roll of the Conference is now about 2,000; between 200 and 300 papers have been furnished, and, beside this clear addition to the common stock of pharmaceutical knowledge, it has for four consecutive years given a compendium of the pharmaceutical discoveries of other countries. Professor Attfield has, in addition to his other honorary work for the Conference, remained the sole editor of its "Transactions." *Labor omnia vincit*; but it is right to know the nature of the labour thus involved.

But these laborious occupations did not interrupt severer literary pursuits, for in 1864-5 he revised much of the chemistry of Brande's "Dictionary of Art, Science, and Literature," writing many if not most of the new chemical articles for that work. In 1866 he extended and revised the chemical portion of the fourth edition of Clegg's large and well-known treatise on the "Manufacture and Distribution of Coal Gas." These avocations were somewhat varied by the lighter duties connected with the Chemist's Hall, in the establishment and maintenance of which he was actively engaged. Fair pharmacionnes



were willing personally to demonstrate this development of one of the laws of chemical attraction. Now came the passing of the Pharmacy Act of 1868, and larger work, literary and educational, was entailed.

Never will be forgotten the details of the dreadful fire at Chicago—on the one hand, fearful disaster; on the other, marvellous and instantaneous sympathy. To Professor Attfield was assigned the honour of being the medium through whom was conveyed the substantial relief and real regard of British pharmacists towards their brethren in America. The, to him, simplest effort of organisation was all that was necessary to give effect to the warmheartedness of Englishmen under these trying circumstances. An influential representative committee was formed (which the Professor never once called together), and all that intelligent benevolence could effect was at hand to alleviate the dire calamity. The authorities at Chicago were not slow to appreciate the share taken by our Professor in conducting matters to a successful issue, and his portrait, painted by Mr. E. N. Downard, now adorns the College walls.

We must not dwell upon the numerous papers that have already been contributed by Professor Attfield; the list looks more like the index to a book than a catalogue of subjects. Nearly every research has a pharmaceutical bearing, but by none of them will he be better recollected than by that relating to his discovery of the carbon spectrum, the series bearing on a decimal system of weights and measures, and the communication on nomenclature.

The first gained for him the respect of chemists and physicists, the second the compliment of a place on the Council of the International Decimal Association, and from the third he reaped still more flattering recognition. The system advocated was adopted in the United States' Pharmacopœia, and further elicited from the Editor of the British Pharmacopœia the statement that "he had every confidence that when the time came for bringing out a new Pharmacopœia the nomenclature which Professor Attfield would like to see adopted would be introduced." Professor Attfield has had conferred upon him honorary memberships of the American Pharmaceutical Association, of the Colleges of Pharmacy of Philadelphia, New York, Massachusetts, Chicago, and Ontario, and of the Society of Pharmacy at Paris.

He has recently been elected a member of the Council of the Chemical Society.

"The hand of the diligent maketh rich" mentally, as well as in the accepted pecuniary sense. The Professor is no mean illustration of this truth. Honours have crowded on him, and, as he still retains his old fault of youth, we may fairly hope that the past is but the harbinger of the future.

### PERMANGANATE OF ZINC.

By HUSKISSON ADRIAN, F.C.S.

A RECENT report of the Medical College of Berlin contains an account of the use of this salt for injections. It is stated to be much more effective than sulphate of zinc. The following is the usual method of preparing it:—Permanganate of silver is thrown down by mixing hot concentrated solutions of permanganate of potash and nitrate of silver, and is afterwards levigated with a solution of chloride of zinc. The chloride of silver is then separated, and the permanganate of zinc is obtained by concentrating the solution cautiously. It will be seen that this is a troublesome and wasteful process; but I have not yet been able to find one to replace it with advantage. To neutralise permanganic acid with carbonate of zinc sounds easy, but this acid has an unpleasant habit of ex-

ploding when prepared in the usual way from the permanganate of potash. A modification, also, of the process for making this last-named salt has not given me satisfactory results.

Permanganate of zinc is a dark-red crystalline powder, similar in its general properties to the potash-salt. The maximum strength in which I have heard of its administration is one grain to an ounce of water. Linen dipped into a solution of this strength is stained pink; but the colour fades within five minutes to a light brown, hardly perceptible.

The report to which I have already alluded contains a pathetic account of how some manufacturer imported into Prussia under the name of permanganate of zinc a preparation which turned out to be sulphate of zinc coloured with permanganate of potash. I find by experiment that a mixture of one part of powdered sulphate of zinc with two parts of permanganate of potash makes an excellent imitation of the zinc salt, although a few drops of a solution of chloride of barium expose the fraud at once. I mention the above simple test in case the same manufacturer favours English pharmacists also with some specimens of his ingenuity. Permanganate of zinc being at present sold at twelve times the price of the potash-salt, the motive of the substitution is sufficiently obvious.

### COMMERCIAL PEPSINE IN ITS RELATION TO THE PEPSINE OF THE PHARMACOPŒIA.

(By JOHN ABRAHAM, Liverpool.)

WE have long been familiar with the name of pepsine, and now that we find it in the additions to the Pharmacopœia it is incumbent on us to enquire whether the article which we supply is in accordance with the new and legal standard. Although the medicine to which the name is now authoritatively given cannot be considered a pure proximate principle, it will not be found, I fear, that the commercial article commonly supplied corresponds to it. A reference to the formula will show that it does not contain any starch; but starch is usually present in the commercial preparations.

Pepsine was introduced into medical use in France, and for it is given in the French Pharmacopœia. A solution is made by digesting the mucous membrane of the stomachs of animals in water. A precipitate is thrown down by the addition of acetate of lead, and the lead having been thrown down by means of sulphuretted hydrogen, the solution is supposed to contain the active agent. If this is evaporated to dryness, a gummy mass is obtained, not very suitable, it has been thought, for medicinal use. Starch is therefore previously added—perhaps also some acid—and a dry powder of starch with pepsin commonly called *pepsine*, is obtained.

Another article is also in the market called "*Pepsina Porci*." A formula for this was furnished by Dr. Beale, and the method of the Pharmacopœia corresponds to it, but with this difference that the Pharmacopœia authorises the use of the stomach of the pig, of the sheep, or of the calf. The glandular stomach of any one of these may be scraped, the fluid rapidly dried at a temperature not exceeding 100° F., and the product called *pepsine*. According to Beale it contains the gastric juice, with much epithelium from the glands and surface of the mucous membrane.

I have no intention of enquiring which of these preparations is the best. I wish simply to call your attention to your responsibility in the matter. The difference between the two is very apparent when they are looked at through the microscope. Some samples are loaded with starch.

There is no need of a microscope to ascertain this. Mix a little with water in a test-tube, boil, and add a drop of solution of iodine. The blue colour will give an unfailing proof if starch be present.

But there may be no starch, and the preparation may look perfectly right, and yet be inert—nothing but the physiological test, its power to dissolve albumen or animal fibre, can show its value. Our responsibility remains the same, over



would it prove that the active principle diluted with starch is better than the active principle diluted with the mucus with which it is mixed when obtained as directed by the Pharmacopœia, by scraping the glandular coat of the stomach.

But I think it right to add that not only do the microscopical appearances of the commercial pepsine of the pig correspond to those of the Pharmacopœia, but, so far as my opportunities of examination have extended, they bear best the Pharmacopœia test in respect to their power to dissolve the albumen of the egg.

## THE PHARMACEUTICAL EXAMINATIONS.

By an Examined Pharmacist.

THE very large proportion of failures in the last few Minor Examinations held in London leads to one of two conclusions—either that an exceptionally bad class of men have presented themselves, or that the examinations have been unusually difficult. No doubt the ordinary proportion of failures has been swollen by a number of unprepared men presenting themselves on the off chance, so that in case of failure they may make another attempt before the dreaded new regulations come into operation. But, although some of the failures may be attributed to this cause, I am heretic enough to disbelieve in the complete infallibility of the examiners, and, taking an entirely dispassionate view of the case, I have come to the conclusion that the Minor Examination, as at present conducted, is not the slightest test of a man's capabilities or real worth. This may seem somewhat startling, but I will endeavour to bring forward facts that will fully bear out this assertion. In the first place, it may be stated that the regulations published by the Board of Examiners have little or no bearing upon the Minor Examination as it is practically carried out. Let chemistry be taken as an example: we find that a candidate is required "to recognise the acids, oxides, salts and other definite chemical bodies of the Pharmacopœia; to describe the processes by which they are produced, the composition of such as are compound, and to explain the decompositions that occur in their production by written equations or diagrams." This is all: there is not a single word that could lead a student to suppose that anything is required beyond a knowledge of the chemistry of the Pharmacopœia. Chemicals and apparatus are to be recognised, and is it surprising, therefore, that some candidates should be somewhat staggered when called upon to recognise a pipette and burette, and give some details of volumetric analysis? Others are naturally surprised at not being asked a single direct question as to how any Pharmacopœial chemical is made, but are met with questions as to the exact number of oxides of lead that exist, or as to the action of certain bodies upon those very oxides not mentioned in the Pharmacopœia—as, for instance, that of nitric acid on red lead, and that of hydrochloric acid upon puce-coloured peroxide. Another only objects to being asked as to the various changes that take place when any acid, either hot or cold, strong or dilute, is added to any bodies that the caprice of the examiner may call to mind, as for example, when hydrochloric acid is added to bichromate of potassium, or when nitric acid is added to tin. Another candidate, after recognising some dozen chemicals, is required to mention the decomposition, and to describe the appearance of the mixture when solutions of two or more of them are mixed together, the products having nothing whatever to do with the Pharmacopœia, as for example, when solutions of sulphate of zinc and ferrocyanide of potassium are mixed, or when the latter is mixed with solution of sulphate of copper, or when solution of ammonia is added to verdigris. I might fill several columns with such examples, but I think I have shown that the chemistry required is not fairly described by the regulations for that subject. Many of the examples I have cited are rather old stock, and a London student who had any hope of passing would not dare to present himself, after the experience of his friends, without picking up all he could ascertain about the oxides of lead, and carefully preparing an acquaintance with the actions of the commoner acids under varying conditions upon the metals and most salts. He would also have an extended knowledge about the metaphosphates and pyrophosphates, the relationship they bear to the phosphates, and their various reactions. Such a student is probably rewarded for his thorough and straightforward work by a commendation for the excellence of

his chemistry. But how fares it with the country student who, probably solely by his own effort, has carefully and honestly prepared *all that the regulations require*? He is at once taken aback by such questions, loses all confidence, and lamentably fails.

Turning to botany, I find that the discrepancies between the regulations for that subject and the actual examination are even greater than in chemistry. The regulations now in force require a candidate "to recognise the more important indigenous medicinal plants; to possess a general knowledge of the elementary structure of plants and the structure and distinctive character of roots, stems, leaves, and their parts; and to name and describe the various parts of the flower. There is nothing here that alludes to classification; but a candidate is frequently expected to give the four great divisions into which dicotyledonous plants are divided, and the characters by which one can be distinguished from the other. There is no hint that would lead one to suppose that it would be necessary to possess a knowledge of the functions of the various parts of the plant, or of the circulation, or of the reproduction of fœrus. There is no mention of the various inflorescences or fruits: still I learn from students who have passed, as well as from those who have failed, that the examination seems more especially to hinge on these matters, and that a question is rarely asked upon cellular or general structure—a matter which occupies the greater portion of the printed regulations. I do not intend to go through the subjects *seriatim*, but I cannot pass over Pharmacy without noting that candidates are apparently given to understand that no knowledge is required of the processes by which the preparations of the Pharmacopœia that are not of a definite chemical nature are made, but that not only are these required in the actual examination, but the various reasons for so proceeding are required also. Most students may also be a little confused by questions as to the composition of such matters as Vienna paste, London paste, Ward's paste, Heberden's ink, Volangin's solution, Lapis Divinus, &c., or as to the meaning of the marks on vinegar casks, or the exact amount of sulphuric acid the Pharmacopœia allows in vinegar.

I have one word to say also about dispensing. At intervals terms are introduced into the directions for use which are now practically as extinct as the dodo, and while one candidate may have the well known almond oil with *liq. ammoniæ* emulsion to prepare, his neighbour at the dispensing counter may have a mixture containing ammoniated, tincture of guaiacum, sulphate of quinine, dilute sulphuric acid, bicarbonate of potash, mucilage, and water, with perhaps such complex directions attached that it is next to impossible to render "a literal as well as an appropriate translation." In the first case, the most clumsy manipulator can scarcely fail to make a good emulsion, while, in the second, a good dispenser is lucky if he should succeed in obtaining a decent mixture as the result of possibly his first experiment with such harmonious ingredients.

It must not be supposed that I would lower the standard of the Minor Examination. I think, if it were conducted strictly according to the regulations, it would be simply ridiculous; but I should like to see something definite laid down, and that something adhered to.

If I might venture to suggest a remedy, I would propose that the regulations be so framed as to indicate a considerably higher standard than they now imply, that there should be at least two days' examination, the one written and the other *viva voce*; and I would even venture upon a third, for practical testing and dispensing, completely apart from the *viva voce*. The amended regulations should be as sharply defined as possible, and the questions should be uniform to each candidate, and so framed as to embrace the whole range, but no further. It would not be more difficult for a student to prepare for such an examination than for the present Minor, with its excessively hazy requirements; and it would most effectually crush exam, since a candidate would be compelled to prepare the whole subject as far as required, and he could not be crammed successfully in any particular grooves.

It may be urged that such a course would be troublesome and expensive. I do not think the matter of expense should be discussed when the efficiency of an examination is at stake, especially with an annual balance of 2,000*l.*; and a little extra trouble should certainly not be spared to prevent outsiders who are not in the secret from pointing the finger of reproach at us as a class from the fact that 75 per cent. of our young men fail to meet the paltry requirements embodied in the regulations for the Minor Examination as they now exist.





CONDUCTED BY RICHARD J. MOSS, F.C.S.

WE have again to announce an exercise in Toxicology. The substance to be examined shall consist of a mixture of flour and linseed meal, and it may contain a well-known metallic poison. The mixture is to be subjected to such an examination as is required to detect the suspected poison.

Students who wish to compete should send us their names and addresses before the 20th inst. On the 25th we shall forward the samples.

Students' papers will be received up to the 15th of the following month.

#### ANSWERS.

The organic mixture distributed for examination last month contained  $2\frac{1}{2}$  per cent. of mercuric chloride, being of precisely the same composition as that which formed the subject of our last September exercise. Comparing the results of these two competitions, we observe that the papers received on the present occasion show a decided improvement, although there are many new names on the list. It is also noticeable, however, that several of the remarks which we made then concerning the analytical errors which had been committed are applicable on the present occasion. We therefore recommend those who have been unsuccessful to read the article under the head of "Answers," in the September number.

The necessity for a strict regard for truth in scientific work is forcibly illustrated by some of the papers before us, and needs more than a passing notice. We do not often receive a paper which bears upon it the impress of absolute truthfulness; as a general rule there is a little colouring introduced here and there to suit the circumstances of the case. Facts are, as it were, improved upon. To take an example, reactions have been observed which appear to indicate the presence of white precipitate in the mixture. In the course of examination the mixture has been treated with water, and some of the filtered liquid evaporated to dryness, a very slight residue remains. Now this residue is too insignificant a thing to influence the preconceived opinion of our analyst: he thinks it is not worth examining, that probably in more experienced hands there would not have been any residue at all, so he dismisses the matter by recording the note, "free from substances soluble in water." This example is not given as having actually occurred, but simply as typical of the form of error with which we have the greatest trouble in contending. It is the old difficulty of telling the truth; it is so much easier to say something that will answer one's purposes better than truth, for it is very troublesome to have things turning out contrary to expectations. But saving trouble in the pursuit of knowledge is only saving it for another time. In recording an experiment, the thing done should first be noted, not what should have been done according to the text-book, but simply the actual operations performed. The same principle must be carried out with regard to the results; the simple facts must be adhered to, no matter how unexpected or contradictory they may appear. It is occasionally hard to resist the temptation of overlooking some trifling circumstance because it is contrary to what one expects, and it may be unpleasant to be obliged to note effects which may even appear to arise from carelessness or neglect of proper precautions. But no inducement should be strong enough to make one diverge from simple truth. Success in scientific work springs largely from a love of truth. The career of Faraday affords a striking illustration of this fact. In speaking of the success which attended Faraday's peculiar method of working, A. de la Rive says, "Thanks to his genius, but thanks also to that love of truth which characterised him, and which preserved him from the temptation so often experienced by every discoverer, of seeing what he wishes to see, and not seeing what he dreads."

#### PRIZES.

The First Prize for the best analysis of the mixture has been awarded to

SYDNEY PLOWMAN (S. P.), 17 Bernard Street, Russell Square.

The Second Prize has been awarded to

A. J. CARTER (Animi Causa), 67 Vincent Square, Westminster.

#### Marks Awarded for Analyses.

S. P. (1st Prize) .. .. .	95
Animi Causa (2nd Prize) .. .. .	92
A. P. L. .. .. .	90
Concordia .. .. .	86
A. Weddell .. .. .	85
H. A. K. .. .. .	81
R. Carson .. .. .	81
Non Nullus .. .. .	80
W. Clarke .. .. .	80
W. E. R. Martin .. .. .	59
W. A. B. .. .. .	45
Pharmacopœia .. .. .	30
Gradatim Excelsior .. .. .	25
C. F. P. .. .. .	20
Vita .. .. .	15
F. S. D. .. .. .	0
F. F. .. .. .	0
C. W. H. .. .. .	0
A. P. .. .. .	0
D. A. S. .. .. .	0

#### TO CORRESPONDENTS.

\* \* All Communications should include the names and addresses of the writers.

*Prizes.*—The students to whom prizes are awarded are requested to write at once to the publisher, naming the book they select, and stating how they wish it forwarded.

Any scientific book that is published at a price not greatly exceeding half-a-guinea may be taken as a first prize.

Any scientific book which is sold for about five shillings may be taken as a second prize.

*R. Carson.*—Your paper was perfectly correct so far as it went. It is necessary, however, that your conclusions should be supported by such a weight of evidence as shall place them beyond doubt.

*W. Clarke.*—Your conclusions were correct, but they were not incontestable.

*W. E. R. Martin.*—It is necessary to discover the acidulous as well as the metallic radical of the poison, and to determine the nature of the compound; for the same elements may combine (as in the case of mercury and chlorine) to produce either a poisonous compound, or one comparatively inert.

*W. A. B.*—We have before pointed out that the ammoniacal odour observed when the mixture is boiled with a solution of an alkaline hydrate is due to the decomposition of some of the nitrogen compounds of the organic matter.

*Pharmacopœia.*—Your error was due mainly to the results obtained with the solvents. You appear to have evaporated the ether extract to dryness, without obtaining a residue. This is strange, as we obtained a very decided residue, consisting principally of oily matter, from which the mercuric chloride was removed by water.

*Gradatim Excelsior.*—See remarks to *W. A. B.*

*Vita.*—The insoluble body produced by the action of mercuric chloride on albumen is a compound of these two substances. The chlorine is only liberated by repeated washing.

*F. S. D.*—The difference in the colour of the precipitate produced by hydrogen monosulphide in the aqueous and that produced in the nitric acid solution was due to the presence of sulphur in the latter. The sulphur is a product of the decomposition of the hydrogen monosulphide in the presence of nitric acid. It is a great mistake to arrive at a decision with so little evidence before you. If a conclusion does force itself upon you, try to prove it wrong, instead of endeavouring to confirm it.

*F. F.*—The white residue on the charcoal consisted of the ash or inorganic matter of the meal and flour. The black hydrogen monosulphide precipitate was certainly insoluble in boiling dilute nitric acid, and we cannot explain your result, except on the supposition that the precipitate was not thoroughly washed.

*C. W. H.*—The change in colour of the hydrogen monosulphide precipitate from white to black is characteristic of mercuric solutions.

*A. P.*—It is difficult to understand how you could mistake the mercurial sublimate obtained from the copper for a crystalline arsenical sublimate. Perhaps you have ventured to form an opinion without previously observing these sublimes produced from known sources.

*B. O. W. L.*—The little particles which you sent us were not crystalline. When magnified they presented the appearance of amorphous quartz, but they were easily crushed; and when heated they swelled up and blackened, emitting an odour resembling that of burning starch. It would, therefore, appear that they were fragments of some white grain, probably rice. With regard to the solution, you must of course examine it for the metallic radicals. This will be troublesome, but you cannot expect to learn without some trouble.



## THE ADDITIONS TO THE PHARMACOPŒIA.

THE adjourned discussion on the Pharmacopœia Appendix took place at Bloomsbury Square on May 6. It was opened by the following Paper sent by Mr. Edward Smith, of Brquay:—

"Any attempt to criticise the recent addendum to the Pharmacopœia savours very much of the principle involved in locking a stable door after the horse has been stolen; for no matter how valuable or otherwise any particular preparation may be shown to be, the formulæ have all the force of law, in fact, have already become *the law*, so far as pharmacy is concerned.

"It has been known for a long time past that the General Medical Council contemplated the issuing of an addendum to the British Pharmacopœia which, it was supposed, would include all those medicines and preparations which had, since the publication of the 1867 Pharmacopœia, been brought into general use, and which had to a greater or less extent acquired the sanction of the medical profession. Whether such an addendum was really necessary, especially when issued as the present one has been, so short a time before the next decennial Edition of the British Pharmacopœia, may well be doubted. It is, of course, eminently desirable to ensure uniformity in the strength of medicines whenever possible; but it is very questionable whether this is of so very supreme importance, in the comparatively few medicines of any value that are introduced and accepted in the course of the decade, as to necessitate the publication of a supplementary authorised Pharmacopœia. For, in the first place, the current medical and pharmaceutical journals generally indicate with sufficient exactness the general characters and doses of new preparations; and again, prescribers not unfrequently indicate the strength when there are known to be material differences of composition in medicines of the same name.

"The doubt as to the unwisdom of issuing the present addendum becomes a certainty when the contents are examined. There is not a single 'medicine or preparation' that could not have waited—without any detriment to the world—until the next edition of the British Pharmacopœia, whilst the information to be derived from further experience of the value of some of the 'new preparations' would probably have secured for them a more appropriate position.

"If it were not now too late to comment, one would naturally ask, Why introduce such a wretched form for *Tinctura Quiniae Ammoniatæ*? A much more agreeable and aromatic, and I think a much more universal one, is simply the solution of a grain of quinine in a fluid drachm of sal volatile. Then, again, syrup of chloral. The great majority of chloral takers have become so accustomed to a more grateful syrup, that the thin,awkish, miserable syrup of the addendum, has little chance of popularity, either amongst prescribers or patients.

"As for pepsine, the form involuntarily carries one back to primitive times. Scrape the stomach with a blunt knife indeed! Well, I should dearly like to see the Medical Council at this work! Some of them would most likely prefer a week's hard labour at Millbank to a day's stomach scraping with a blunt knife! I have had some little experience of pepsine making, and if I were asked to point out *the least desirable* method, I should have little hesitation in fixing upon the addendum process.

"Liquor Magnesie Citratis is out of place in a Pharmacopœia; it would be more at home in a volume dedicated to 'Domestic Receipts.' It may have been introduced to fill up a corner, and possibly in the next addendum, if ever we are blessed with another, we may find 'Nettle beer and Lancashire pop!' Who knows? *Tinctura Aurantii Recentis* is a desperate attempt at fancy pharmacy. Mrs. Jones' flummery may be all the better for it, but in the more serious matter of every-day pharmacy one is at a loss to discover how, in any essential particular, the new tincture is better than the old.

"The contrast between the primitive simplicity of the pepsine formula, the dandy elegance of the new orange tincture, and the insipid crudeness of our new chloral friend, would be supremely ridiculous were it not for the harassing position most pharmacists will be placed in. Some friend may peradventure suggest that there is some good in the addendum, that all is not bad, or doubtful, or childish, or what not. True, *Tinctura Laricis* is good, and so are *Succi Belladonnæ* and *Hyoscyami*, and one or two others; but, notwithstanding these, does not

the prefatory announcement, printed on the very first page, cut the throat of the addendum most completely?

"Is it not there stated that 'several new medicines and new preparations having been introduced and established since the Pharmacopœia was published in 1867, the Council have thought it desirable to supply the requisite information concerning them?'

"Does not this statement directly, indirectly, or inferentially indicate that the best established, the most popular amongst physicians, the most commonly employed extra-pharmacopœial preparations, might be without doubt found in the addendum? Where, then, are Parrish's syrup and Easton's syrup, almost as commonly prescribed as *Aqua Destillata* or *Mistura Camphoræ*? where *Nepenthe* and *Chlorodyne*; where *Tinctura Aetææ Racemosa*; or *Pruni Virginianæ*, or syrup of the same; the two latter quite as frequently prescribed as *Tinctura Laricis*? Has the Medical Council never heard of the utility of *Syrupus Ipecacuanhæ* and its superiority over the old *Vinum*? But enough of this. Surely a more ricketty, weakly bantling, one more innocent of the least possible *raison d'être*, never was suffered to exist.

"I had nearly suggested its withdrawal, but there is really nothing of any moment to withdraw. Left to itself—in spite of its eminent parentage—its early atrophied condition leaves but little hope that the thing can survive, except as an amusing and instructive lesson, or as a remarkable illustration of the old fable of the mountain and the mouse.

"The time has long since passed when any Council composed of medical men can frame a Pharmacopœia. All future works of this nature can only be successfully accomplished by a medical council deciding of what preparations and medicines the Pharmacopœia shall consist, whilst *the method* of compounding and preparing is left to a council of practical pharmacists well versed in such matters."

Mr. M. CARTEIGHE also thought that the book did not reflect so much credit on its authors as did the original edition, and he supported Mr. Smith's remarks as to the necessity for practical pharmacists being called upon to aid in the preparation of any Pharmacopœia. He regretted that the Medical Council had not thought fit to send copies of this book to a few practical pharmacists when they issued the proof addendum, which by accident got into Mr. Bettle's hands. Mr. Carteighe commented on the formula given for hypodermic injection of morphia, and thought it a pure waste of time to order a solution of the acetate to be made in such a roundabout manner. Suppose the life of a patient depended on the prompt injection of such a solution, how could any one prepare it by such a formula? If the acetate was not considered a sufficiently trustworthy salt, there was the sulphate, which was perfectly definite. The *Pulv. Glycyrrhizæ Co.* he thought should have contained sulphur and fennel, as in the Prussian Pharmacopœia, which was the form almost invariably prescribed. As to *Liq. Magnes. Citratis*, he did not concur with Mr. Smith's condemnation of the preparation, but he strongly objected to the name, which did not correctly describe the article. "*Magnesian Lemonade*" would better represent the preparation. Mr. Carteighe concluded by warmly urging that the Pharmaceutical Society should be recognised by having the privilege of assisting in the compilation of such a work as this. He asked this, not because pharmacists wanted more work, but in the interests of the medical profession themselves; for what could be more mischievous than to insert formulas in a national book, some of which were practically unworkable? A Pharmacopœia in this country should be compiled by a joint committee of medical men and pharmacists, the latter to be only responsible for the preparation of the medicaments which the former decide on inserting. In asking this, pharmacists were only asking for the same recognition as had been accorded for many years to their brethren in Germany and France, and for a long time in the United States.

Mr. BLAND was better satisfied with the "Additions," but they were not perfectly to his mind. For instance, he saw no reason for introducing the *Syrupus chloral* unless for the purpose of giving a definite strength to it, and a similar remark would apply with regard to *Aqua chloroformi*. The *Tinctura quiniae ammoniata* could certainly be improved, as suggested by Mr. Smith, whose form was the one he had used for many years. He had never been an advocate for introducing *Tinctura aurantii recentis* into the Pharmacopœia, though he had made it for a long time, and considered it useful for flavouring pur-



poses. It might be confused with the other preparation, made with proof spirit and dried peel.

Mr. T. H. WILLIAMS (Holloway) said he had tried making the carbolic acid suppositories with soap for several hours, according to the method given in the addendum, but he had completely failed. If he used properly powdered soap, as sent out by the wholesale houses, they could not be made without employing something like hydraulic pressure to form them into the moulds. On the other hand, if he used soap partly dried so that it could be rubbed to a coarse powder in a mortar, they could be made, but if the same kind of soap was used for the tannin suppositories they acquired a size of about 30 grains, which was very objectionable.

Mr. MARTINDALE thought the formula for hypodermic injection of morphia was a really good one, though it was weaker than that generally used, which had one grain to six minims. There might be an advantage, however, in having it more dilute, especially if it had to be used by unskilful persons. He had no doubt that the precipitated pure morphia prepared from the hydrochlorate, and re-dissolved in acetic acid, formed a more stable solution of acetate of morphia than could be made direct from the acetate. The sulphate required from 20 to 24 parts of water to dissolve it, which would make the solution much weaker; therefore it was objectionable on that score. The ordinary commercial acetate, when kept for twelve months, became liable to change in a variety of ways, and was much less soluble than when freshly prepared, requiring almost as much water to hold it in solution as the hydrochlorate or sulphate. Mr. Martindale criticised chiefly the formulæ for phosphorated oil and phosphorus pills. The former, he thought, might have been of the strength of 1 in 100, instead of 1 in 160. The heating of the oil to 300° F. he considered deleterious, because phosphorated oil thus made became almost as viscid as castor oil. The phosphorus pills he had found by actual experiment were not soluble when made according to this formula. Among a few other criticisms, Mr. Martindale remarked that the *Charta Sinapis* was a bad imitation of a good article.

Mr. BARNES had made phosphorus pills with soap, and had found them dissolve perfectly.

Mr. UMNEY and Mr. WILLIAMS considered that the sp. gr. of acetic ether, as given in the "Additions" (namely .910) was not accurate. From a series of experiments, Mr. Umney considered that .8956 was very nearly the sp. gr. of the pure article, while Mr. Williams believed that .890 would be correct.

Professor REDWOOD, in replying to the various criticisms, said very important, interesting, and valuable discussions had taken place on many previous occasions on similar subjects to the one now brought forward, but he must confess to having heard with very great regret much of what had now been stated. He did not know what authority was now exercised over papers read at these evening meetings; but if he had been in a position in which his opinion were asked as to whether such a paper as that by Mr. Smith should be read, he should have said decidedly not, and he certainly considered it very undesirable that it should be published in the Journal, with the stamp and authority of the Society. However, it had been read, and had been followed by an harangue given by a gentleman occupying a prominent position in the society—an harangue not so objectionable as the paper which preceded it, but which he thought, going before the world at large and the medical profession, would not be calculated to elevate the Society and its proceedings in their estimation. The subject of it could hardly be said to be a continuation of that which had been so properly brought forward by Mr. Umney on the previous occasion, for that gentleman's paper was in every respect unobjectionable, and his criticisms had been very welcome, as also had some others which had been given that evening. He objected, however, to the political question, as it was called, being introduced; though in one respect the introduction of this extraneous matter served to explain and to account for the nature of the criticisms which had been offered, for it simply amounted to this—Here is a portion of the Pharmacopœia which we have not had a finger in, and therefore we will object to it. The animus, therefore, was most clearly explained.

Mr. CARTEIGHE: No.

Professor REDWOOD said that was certainly the impression produced on his mind, and when the discussion was published he thought the same impression would be produced on those who read it. Coming, however, to the criticisms themselves, what did they all amount to? Did they amount to anything? He found a difficulty in picking out any portion which really called

for any serious answer, certainly any answer beyond what had been already given. The remarks about acetic ether Professor Redwood seemed to regard as the most important of the discussion; but he was quite prepared to defend what was stated in the addendum with reference to it. He had found, like other experimenters that all attempts gave varying results, therefore he had taken the sp. gr. as given by Kopp, which happened to be about the minimum of what was given by the chief authorities. As to the process, if not perfect, he maintained that a practically good preparation for all the purposes contemplated might be obtained without the use of either lime or any other alkali. You never got it perfectly neutral in commerce, according to his experience, and if you made it neutral it soon became acid. Many remarks had been made of a disparaging nature, indicating that amongst the additions were substances which were unworthy of a place in any Pharmacopœia. That was a matter of opinion; and, judging from what had passed on this and other occasions, if the president were sitting as chairman of a committee, he would find a difficulty in ascertaining which way the opinion inclined with reference to some of the preparations which had been mentioned. He thought there could be no question as to the propriety of introducing acetic ether, which was one of the most agreeable of the compound ethers, and was destined, he believed, to occupy a prominent position in the pharmacy of the future. It contributed greatly to give the peculiar flavour to the wines and vinegars, and if wine were to be replaced as a vehicle in medicine by some dilute spirit, this acetic ether would be advantageously used as a flavouring agent. If Mr. Bottle had looked into the copy which by an unfortunate accident had got into his hands, he would have found that acetic acid was intended to form a component part of one of the preparations which at one time was intended to be introduced, but which was subsequently rejected. But to proceed, nitrate of ammonia was now largely used for making nitrous oxide gas, and was therefore introduced. With reference to nitrate of amyl, it was a very powerful and valuable medicinal agent, and it was desirable and necessary that its composition and characters should be defined. With regard to the *Aqua chloroformi* again, it was a matter of opinion whether it ought to have been included or not. Mr. Umney said it was one of the most valuable preparations in the whole list, whilst others said it was not worthy of a place. He had long been of opinion that it was a very elegant and agreeable aqueous vehicle for medicines compatible with it. It was said, however, that spirit of chloroform might be used to make it. So it might, but then either too much or too little might be used. This was a perfectly definite preparation, which would keep perfectly well for any length of time. He could say nothing with regard to the areca nut, because he had no experience of it, but on a former occasion it had been stated on the highest medical authority to be a valuable anthelmintic, and, as had been admitted by Mr. Carteighe, it was for the profession to decide what medicines should be introduced; he considered, therefore, it was rather in bad taste to make the sort of disparaging remarks with regard to it which had been offered. With regard to fresh orange, that of course was required for the tincture. Oxide of bismuth he had heard nothing against, and it was one of the most definite preparations of bismuth, and easily obtained in a state of purity. In his opinion it was much preferable to the nitrate or carbonate. With regard to the hypophosphites of lime and soda, he believed all that had been said was in their favour. Hydrate of chloral came next, and was it right that it should be so extensively used as it now was, without having a recognised description of it and a method of testing it? Next came the liquid extract of liquorice, which was not a matter of great importance, but it was a convenient preparation, and the formula given was that given by Mr. Squire. Gutta percha was simply used in another preparation, and was introduced as such. The yellow oxide of mercury had been recently used in medicine and had been recommended to the Society years ago by Mr. Squire in preference to the less soluble oxide generally employed. Then with regard to the hypodermic injection of morphia, he thought it fully time that this should be introduced, and that it was not right to wait until a new Pharmacopœia came out; in fact, this one article alone was, in his opinion, sufficient to justify the issue of the addendum, inasmuch as it would be a great advantage and convenience to retail pharmacists throughout the country to have a good practical process, as he called it (and Mr. Umney further had said it was the best process), for making this hypodermic solution. It was done with a view to their own convenience.



nee and to the interests of the public. Before this came out had been repeatedly applied to by chemists throughout the country to know how a solution of acetate of morphia could be capable of being used for this purpose, the attempt to do so by dissolving commercial acetate of morphia having always failed. With regard to larch bark he might say the same as in the case of areca nut, it was for medical men to say what they would prescribe. Next came the solution of citrate of magnesia, and here again was introduced a very efficient, elegant, and agreeable purgative, not before in use in this country. The citrate of magnesia was justified by its composition, and entirely disagreed with Mr. Carteighe on this subject. The *magnesiæ citratis* was precisely what its name indicated, and a better name could not have been adopted. It would have been very objectionable to give such a name as purgative, or anything of the kind. The whole of the preparations constituted citrate of magnesia, with the exception of a little flavouring matter. Next came *Oleum phosphorum*. The formula had long been used on the Continent, and he knew of no better mode of making it. He had made it over and over again, and had not found the oil become rancid, at any rate not to such an extent as to interfere with its use, even after being kept nearly twelve months. The only defect of heating the oil was to drive off the water, though in the samples of oil it also rendered a portion of albuminous matter insoluble and precipitated it, so that if after it had been filtered it was more likely to form a permanent solution of the phosphorus. Then it was said, why make it of the strength? The fact was, as originally proposed, he had made it of the strength suggested, one grain in 100 grains, but he was afterwards called upon to introduce a formula for a phosphorus pill. The physicians decided what they wanted to have, and as they required phosphorus both in liquid and solid form, he was asked to devise a formula by which it could be administered in both ways. Just at the time a paper was published by Mr. Abraham, jun., of Liverpool, in which he indicated balsam of tolu as a suitable vehicle for phosphorus, and he at once saw there was a manifest advantage in this balsam over any other resin that he knew of, viz., that whether in the solid or liquid state it was heavier than water, so that the solution could be made without any exposure of the phosphorus to the air, thus preventing any oxidation. He contended that this was a perfectly practical process, and the best yet devised for diffusing phosphorus in a form in which it was admitted of administration in the solid state. He could only refer to Mr. Martindale, if he found any difficulty in effecting a mixture of the wax and the resin to try again, and that he availed himself of the proper time and temperature, when the wax was just soft, but not fluid, there would be no difficulty in getting the ingredients to unite. The great advantage was that from beginning to end the phosphorus never came in contact with the air, and was thoroughly dissolved or diffused throughout the mass, it did not much matter which. It was said, however, it did not dissolve in the balsam; and if that was the case, some remedy might be found for it, either as suggested by Mr. Gerrard, the addition of a little sugar, or some other method. This could be done at the time of dispensing. If it were done when the pill mass was made it could not be kept without change. According to the formula here given, however, it was perfectly stable for any length of time, and when prescribed could be mixed with any ingredients necessary to render it soluble in the intestines, if such should be required, which he doubted. The process for pepsin had been strongly criticised, and he must say that a more absurd and, indeed, more disgraceful criticism he had never heard uttered by a gentleman desiring to occupy a respectable position. He, also, had made pepsin, perhaps even more extensively than Mr. Smith, and he was prepared to say that that made by the process given in the Pharmacopœia was the only one which he should be prepared to recommend, and the only form in which it could be presented to the medical profession with satisfaction. There had been processes proposed for procuring pepsin in the liquid state, but they were not reliable, and this was the nearest approximation to pure pepsin. Compound emmony pill was the name adopted instead of compound jalap pill, as first suggested, for the pill of jalap and emmony resin, with soap and ginger. Certainly it was a desideratum to have a purgative pill containing no aloes, and one had proposed a better formula. It had been said that this was not the proper time for making suggestions, but to this he would reply that long ago he had explained as fully as

possible what was proposed to be done, and had asked over and over again for the assistance of practical gentlemen in the matter. They did not render it then, and now they said this was not the time to make suggestions, and it was no use asking their opinion. Of course not, and their opinion was not asked, but they came forward and volunteered it, not having given it when it was asked months and months ago. Among compound powders they had *Pulvis elaterii compositus*, to which he believed no exception had been taken, and every practical man who had spoken of it said it was a valuable addition. It had been asked why sulphur and fennel had been left out of the *Pulvis glycyrrhizæ compositus*. He had a note from Dr. Quain, which would explain the reason why. But, it might be asked, why should they be put in; why should they make a useful preparation an offensive one; was there any necessity to make those to whom it was administered a nuisance to all their neighbours? That was the view taken of it by the Medical Council. If sulphur were required it could easily be prescribed; but it was not in accordance with senna as an adjunct, and therefore was omitted. With regard to fennel, some liked it and others did not, and it was felt that those who wanted it could order it, but if introduced it was not so easy to take it out. Nothing had been said against the vegetable juices of belladonna and hyoscyamus, and why should they wait three or four years as suggested, if there were an opportunity of introducing them now? Next came syrup of chloral, which had been described as too thin and not flavoured as it should be. He would leave Dr. Quain to answer that, but he might say that it was the medical men who considered it was not desirable in administering half a drachm of chloral to be obliged at the same time to give three or four drachms of sugar, when they found that a solution of hydrate of chloral in a much weaker syrup would keep perfectly well. The physician ordering it might prescribe what flavour he liked, but many preferred it without flavouring at all. Lastly came the tinctures; one gentleman had said that the ammoniated tincture of quinia was not aromatic enough, but if that were so, let them add what was required in prescribing it. This was a formula in extensive use already in Edinburgh and elsewhere, and any absence of flavouring could easily be remedied. With regard to the tincture of fresh orange peel, he must admit that he had fallen into a little error which he must take the responsibility of in the process indicated for making it; but the formula now given was not the original one, as had been pointed out by Mr. Bottle at the previous meeting when drawing attention to the discrepancies between the two copies he produced, though for some reason or other this remark has been kept out of the Journal, either by the reporter, editor, or sub-editor, possibly because it did not tend to support the views of some parties. He must admit that the addition of spirit to make up the quantity was an error, but the fact was that was done in committee about twelve o'clock at night, while considering a great number of suggestions coming from different parts of the country, for the work was not completed without practical pharmacists having been consulted. He was sorry Mr. Carteighe was not consulted, but certainly many others were, twenty-four copies having been sent out to members of the Medical Council, especially for the purpose of being put in the hands of their pharmaceutical friends and getting all the advice and assistance they could. He was sure neither the President nor Mr. Squire, nor many other pharmacists, would say that practical pharmacists had not been consulted, for some of the most eminent had had the work put into their hands with a request that they should suggest any improvements. The result was that at the last meeting the committee had a bundle of letters from various sources, and all the suggestions had been attended to, except where one was answered by the others. He regretted that the tincture of fresh orange peel was a subject which last came under attention; and it was suggested that the wording of the formula should be assimilated to others in the Pharmacopœia, where the quantity was directed to be made up by the further addition of spirit, and in a weak moment he passed it, which he admitted was an error. But it was a slight and very unimportant error, and he was certain that if any twenty gentlemen present set about making it, they would not experience the difficulty mentioned by Mr. Umney unless they used an hydraulic press in the process. However, that was the only error he admitted from beginning to end of the work; and that being so, he thought he might justly appeal to the meeting for exoneration from the very serious charges which had been urged. In conclusion he read a note which he had



received from Dr. Quain, regretting he was not able to be present that evening, as he certainly should have made some remarks on the observations previously made, because he saw in them too much tendency to consider the Pharmacopœia as intended rather for the use of pharmacists than of physicians. For instance, it was said that the syrup of chloral did not look like a syrup; but who cared what it looked like if it were suitable for prescription? and as it was made previously, 30 grains of chloral were given in 3 drachms of dissolved sugar, which was a most objectionable dose of sugar to be put into the stomach. Comments had also been made on the strength of the hypodermic solution of morphia; but it should be known that one-sixth of a grain in each minim, as recommended by some pharmacists, was too large a dose for a first injection; hence it was better that one-twelfth grain strength should be made, and two minims used if necessary. The sulphur and fennel were left out of the compound liquorice powder because they were objectionable, and the fluid extract of liquorice, as now ordered, was very far superior to the black stuff melted and diluted, as some persons had suggested.

Mr. UMNEY said Professor Redwood had not referred to the curd soap. Did he find it soluble in spirit? because he (Mr. Umney) found it insoluble.

Professor REDWOOD said he found it perfectly soluble. With regard to the suppositories, the new processes were simply given as alternatives. A good deal of discussion had taken place some time ago as to what could be used as a substitute for cocoa butter in making those articles; medical gentlemen recommended soap, and his own opinion went in the same direction. He considered soap an unobjectionable vehicle, though there might be cases in which something else would be preferable. There were also other reasons why curd soap was introduced, which would be more apparent when a new edition of the Pharmacopœia came out.

Dr. PAUL repudiated any such tampering with the report of the last meeting as one of Dr. Redwood's remarks seemed to infer, and the PRESIDENT wound up the discussion by expressing his disapproval of Mr. Smith's Paper, and his regret at its tone.

## Provincial Reports.

### LIVERPOOL.

FROM OUR SPECIAL CORRESPONDENT.

May 11, 1874.

UNLIKE kindred local associations, the Liverpool Chemists' Association extends its meetings to the end of May, when the President delivers his valedictory address. Whether this would not be quite as opportune at the end of April, and more beneficial to the association, may be worthy of consideration at the annual meeting; but the valuable communications contributed to the two last meetings deserved larger attendances than the meagre audiences present. Pepsine led the way at the first meeting, Mr. Abraham's paper eliciting from Mr. Barber and the President the results of many repeated experiments to test the value of different manufacturers; the product of Beales's process was judged by them, if anything, inferior to the commercial Pepsine of Morson's manufacture. Pepsina Porci, as usually sold, answers all the tests of the B.P. formulary (although made by different processes); is a pharmacist therefore justified in dispensing this when Pepsine is prescribed? A second paper, of interest to sugar refiners only, in connection with charcoal, was kindly contributed by Dr. Miller, of Glasgow, through the influence of the Secretary. Mr. Williams's paper on "Antimonial Preparations" evidenced the employment of many tedious hours' experiment in conducting his investigation; he did not seem thoroughly satisfied with his results, and as test books are somewhat at variance on the point, he purposes continuing the investigation with further assistance, and report results to the British Pharmaceutical Conference.

The public analyst has reported the result of his investigations *pro bono publico* during last quarter, but chemists and druggists are free from honourable mention or otherwise this time. An innocent milk maid, being fined for selling milk as she obtained it from the farmer, enabled the authorities to punish the right man by taking the inspector to meet the train

by which the milk came; he drew a sample immediately the utensil was unlocked. The analysis proved the sample to be composed of 7 parts of water to 100 parts of the poorest milk. The authorities fined the farmer 40s. and costs, informing the milkmaid she had done what every honest woman should do.

It has been thought desirable in the interests of the business of the port of Liverpool to form a public Joint-Stock Company, for the purpose of carrying on the business of warehouse keeping on a large scale, such company to introduce all the modern mechanical improvements, and undertake the entire charge of goods from the ship's side to the warehouse, and to adopt the system of warrants as practised in London.

For storing 46 kegs of saltpetre in a warehouse, not such as is required by the Local Act for the storage of inflammable goods, Messrs. Hedley & Gamble have been fined 10s. and costs, although the defendants pleaded that the Act was not sufficiently known or acted upon, and that as soon as it had been explained to them the saltpetre was immediately removed. Doubtless many merchants are still in ignorance of this Act, and if storing saltpetre is attended with such danger, how many much more dangerous articles do chemists store.

A balance to the good of 7l., and an average attendance of upwards of 700 persons, is considered a satisfactory position for the Science Lecture Association, so that arrangements are to be made for a continuance of these lectures during the latter months of the year.

Chemistry is one of the subjects admitted by the School Board here, the object being to secure the instruction of the teachers and pupil teachers in the School Board schools in chemistry to an extent that in twelve months they will be enabled in turn to instruct their scholars in elementary chemistry. A laboratory is to be fitted up at two of the Board school-rooms, under the auspices of the promoters of the Liverpool Students' Laboratory, for which, in lieu of rent, the teachers, &c., shall have the use of classes without charge.

At the last evening meeting of the Liverpool Chemists' Association, Dr. Symes criticised a paper by Mr. Broad, published in the *Pharmaceutical Journal* of April 30, in which the author substitutes glycerine for sugar in preparing syrups of the phosphates. Dr. Symes had some time ago prepared Easton's Syrup by this method as an experiment, and the results were not satisfactory. Mr. A. E. Tanner had also made similar experiments independently, with the same unsatisfactory results. In his opinion the main secret in preparing these syrups to keep was in using freshly diluted syrupy phosphoric acid. Glycerine was entirely useless as a preservative agent for such syrups, but where a preservative of vegetable colouring matter was wanted, he found it to be of great value in such preparations as Syrupus Croci, Mel Rosæ, &c. His formulary for Mel Rosæ is as follows:—Take of rose petals 4 ozs., boiling distilled water one pint, macerate one hour and strain; pour on the petals half a pint more boiling water, allow this to stand quarter of an hour and strain; mix the liquors, evaporate to 7 fluid ounces, add an equal quantity of glycerine, and it is ready for use.

Two drachms of this liquor added to six fluid drachms of clarified honey produces Mel Rosæ, or rather Glycerina Rosæ.

## MANCHESTER CHEMISTS' AND DRUGGISTS' ASSOCIATION AND SCHOOL OF PHARMACY.

THE fifth and last ordinary monthly meeting of the season was held at 37 Blackfriars Street, on Tuesday evening, April 28.

It had been announced that in the absence of any special lecturer for the evening the meeting would be of a conversational character, and members were invited to introduce any subjects of general interest for discussion. The attendance was however small.

A series of dried and mounted indigenous medicinal plants of the British Pharmacopœia, presented to the Association by Messrs. Buller & McCulloch, were placed on the table, and a vote of thanks, proposed by Mr. Brown and seconded by Mr. Woolley, was awarded to the donors.

Mr. Bengier drew attention to a recent fatal case of poisoning by arseniuretted hydrogen, which had occurred in Messrs. Culvert's laboratory, and urged the importance of extreme caution in the application of Marsh's test.



Mr. Siebold said he had specially cautioned his class on this point when treating of the detection of arsenic. This being the last meeting of the winter session, arrangements for the summer months were discussed, and it was resolved to open the rooms on Tuesday and Friday evenings, till further notice. Students could, however, obtain the same at any time by applying to the secretary. Mr. Siebold's lectures would conclude the fourth week in May, and an examination for prizes would then take place in various classes.

## GLASGOW CHEMISTS' AND DRUGGISTS' ASSOCIATION.

SESSION 1873-74.

The annual business meeting of the Association was held in Glasgow University on Wednesday, April 15, at 9 p.m., John Currie, President, in the chair. The minutes of the previous meeting having been read and adopted, Mr. J. M. Fairlie then, in the name of Messrs. Evans & Co., Liverpool, presented the Association with one of their first-class "pharmacy" microscopes, and it was agreed "that the Secretary be directed to forward to Messrs. Evans & Co. the sincere thanks of the Association for their most seasonable present."

Business connected with the library was then brought forward, when it was resolved "that a sub-committee of three be selected to make the necessary arrangements for establishing a library, but that nothing be finally settled by them without the sanction of the Council. The following gentlemen were elected Library Sub-committee:—Messrs. J. M. Fairlie, William Whyte, and Alexander Kinninmont.

The Secretary then stated that he had been waited upon by Mr. R. Carter Moffat, who was on the eve of departure for London on professional business, who desired the Association to be informed that while abroad he would endeavour to pick up scientific material to furnish the Association with a lecture for the next session, if such would be acceptable. The Doctor's kind offer was cordially accepted, and the Secretary was instructed to forward the Association's best thanks for the same.

The Secretary's and Treasurer's reports followed, after which the Secretary of the "Assistants' Branch" gave a report in connection with his society.

The election of office-bearers then took place (prior to which the Secretary stated that it was not his intention to seek re-election), which resulted in the following returns:—President, John Currie; Vice-president, William Whyte; Secretary, J. M. Fairlie; Treasurer, Mr. M'Kenzie; Council, Messrs. T. Kinninmont, J. A. Clarke, R. Brodie, D. Frazer, A. Kinninmont, W. Nap, William Greig, G. Garry, A. Paterson, J. Fenwick, Paul, and R. C. Rait; Auditors, Messrs. R. T. Dun and W. Rotheringham.

### Secretary's Report.

Mr. Chairman and gentlemen—It has again become my duty as Secretary to lay before you a report of the work done during the session which to-night comes to a close. It shall be my endeavour to make it as short as possible.

The session commenced on October 1, 1873, with an address by the President on "Education connected with the Trade." On the 29th of the same month we were favoured with a highly interesting lecture by Dr. Wood Smith on "The Circulation of the Blood." The attendance of members on this occasion was very good. On November 26 we had a lecture from Dr. Nairne on "The Brain and Nervous System." The lecture was illustrated by means of anatomical specimens. We held our fourth meeting on December 21: the business done consisted in making the necessary arrangements for the annual festival; that being done, the remainder of the evening was devoted to a discussion on "The Adulteration Act," Mr. Kinninmont being the chief speaker. The fifth general meeting was held on January 21, 1874, when we were favoured with an exceedingly interesting lecture by Professor Thorpe on "The Life and Scientific Works of the late Thomas Graham." The lecture was profusely illustrated with experiments, and it may truly be said that those members who were absent from that meeting missed a great deal.

On February 18 the evening was mainly given up to a discussion on Mr. Hunter's motion connected with the library, and which, as most of my hearers are aware, has resulted in the collection by subscription of about 40*l.*, which your council trust

may be further increased by a grant from the Pharmaceutical Society.

The last general meeting was held on April 1, when your association was favoured with a lecture by Dr. Fergus on "Pure Air and Water." The Doctor showed how, by the aid of "Nessler's Solution," the presence of sewage in water might be detected, and he also gave the formula for the best solution.

Your Council are not in a position to say that the present session has been a very remarkable one, but they can say that it will be long remembered on account of its giving birth to the library, and they feel confident that if we go on accomplishing as much every session as we have done during the last few years, we shall before long have great reason to congratulate ourselves on our progress.

Your Council trust that the time is not far distant when the Association may have the pleasure of meeting in a hall of its own; but although this is "a consummation devoutly to be wished," it can only be brought about by the united efforts of every member, and as the object will incur considerable expense, it behoves us to endeavour to add to our list of members, because only by so doing can we carry on the work in connection with the library to a successful issue; and there are many masters and assistants in the city who do not belong to our Association, but who by a little persuasion might, we think, be induced to join us. My own individual opinion is that, until we have the great majority of both masters and assistants in our ranks the Association will never be in a thoroughly flourishing condition, and I consider it a sure sign of disease when an association, either secular or sacred, has to depend for its main support on a few influential members, because I shall ever hold it as the truth that 40 customers at 1*s.* each show a much securer state of trade than four at 10*s.* or two at 20*s.* each.

I have nothing further to add, Mr. Chairman and gentlemen, but simply to thank you all for the courtesy that I have received at your hands during my term of office, and to tender my best wishes to my successor.

The Treasurer, Mr. M'Kenzie, submitted the financial statement, which showed that there had been an income of upwards of 50*l.*, including Library Fund.

The report was adopted.

## IRELAND.

### THE RIVAL PHARMACY BILLS.

Events in Ireland have been rather lively since our last issue. We were then able to publish the text of a Bill which it was announced was to be introduced on the part of the King and Queen's College of Physicians, the practical effect of which would be, as we pointed out then, to assimilate the regulation of pharmacy in Ireland with that of Great Britain. This unexpected action on the part of such an influential corporation has aroused a very strong opposition feeling from the Apothecaries' Hall. The latter body has issued an address to its members, advising them of the contemplated action on the part of the College, and urging them to use every means to defeat the proposed Bill. The following series of reasons against it has been officially promulgated:—

The Governor and Company of the Apothecaries' Hall of Ireland, having carefully considered the Bill of the College of Physicians under its several provisions, feel constrained, by a sense of public duty, to make known the reasons for objecting to it:—

1. That a proposition similar to this was rejected by the House of Commons in the session 1868, when the English Pharmacy Bill was before Parliament, on the ground "that the provisions of the Bill are throughout intended for Great Britain, and, consequently, they cannot be extended to Ireland;" the difference between the two parts of the kingdom in this respect being that, while in Ireland, for nearly 100 years, every person who practised pharmacy was compelled by law to attend a prolonged course of study, and undergo a strict examination prior to his doing so, in England and Scotland any person, however qualified, might keep shop for that purpose. Because it would subvert the rightful control over pharmacy which is exercised by the Company in virtue of their Act of Incorporation, conferred upon them by authority of the Irish Parliament, Anno



Domini 1791; a duty which they continue faithfully to discharge, as appears from the report of the inspector (an ex-president of the King and Queen's College of Physicians) appointed under the Medical Act, who visited the Examinations at the Apothecaries' Hall in the year 1868:—"The Examinations in Chemistry, inorganic and organic, in Botany, general and medical, Materia Medica, and General and Practical Pharmacy, embraced a number of questions, which were admirably put, and must be considered as a searching test of the knowledge of the candidates in these departments."

2. Because, by this clause, there would be introduced into Ireland a number of English "chemists and druggists," who are on the English Register, and who never passed through the course of study or examination required for pharmaceutical chemists under the Pharmacy Acts, and with reference to several of whom an eminent member of the Pharmaceutical Committee of the House of Commons is reported to have said, "that many persons, under the name of druggists, are now entrusted with the selling and compounding of poisons who are utterly ignorant of the nature of these poisons, and of the general effects of drugs." Yet such is the class that the Bill of the College of Physicians would, in all probability, introduce into Ireland as compounders of prescriptions for the public.

3. Because "the license of the Apothecaries' Hall" is a legally-recognised medical qualification throughout the Queen's dominions, and already entitles their licentiates to practise both pharmacy and medicine. The dearth of apothecaries "in parts of the country" is the *natural result* of the "Medical Charities Act" (1851), whereby dispensaries were distributed all over Ireland for supplying medical aid, including advice and medicine, to the major portion of the Irish population; and it is not the result (as has been stated by the College) of "the protracted and expensive course of instruction," forasmuch as the medical curriculum of the Hall has been the same for nearly the last forty years, and an average number of licentiates continues to be qualified annually. But the especial reason why the Company object to the Bill of the College is that they have a *Pharmacy Bill* of their own, which does not disturb vested rights—one, drafted by request of Government a few years since, which provides amply for the pharmaceutical wants of the public, has the approval of the Associations of "the Licentiate Apothecaries" and of "the Chemists and Druggists" of Ireland, and which they willingly offer without any pecuniary gain whatever.

Signed on behalf of the Apothecaries' Company,  
EDWARD J. O'NEILL,  
Governor.

The Apothecaries' Hall, Dublin,  
April 18, 1874.

With these two benefactors in the field, the Society of Chemists and Druggists of Ireland found itself in a strait as to whose liberality to accept. But they seem to have decided to address themselves first to the Apothecaries' Hall. In accordance with this decision, a deputation from the Chemists' and Druggists' Society waited by appointment on the Governor and Company of the Apothecaries' Hall, on Friday, May 1. The deputation consisted of Messrs. E. M. Hodgson, President; J. Goodwin, Treasurer; W. Hayes, Secretary; L. Erson, J.P.; J. Grindley, J. T. Holmes, and R. Simpson. Their primary object was to request the Apothecaries' Company to form with them a joint deputation to wait on the College of Physicians, to discuss the provisions of the new Pharmacy Bill. The Apothecaries' Company, however, at once declined to have any communication with the College of Physicians, and complained of the want of courtesy of that body in introducing a Pharmacy Bill without either consulting them or advising them of their intention. Dr. Leet then informed the deputation that he had forwarded their Bill to the Attorney-General, together with their objections to the Bill of the College of Physicians. It transpired, however, that since the Bill was agreed to by the Chemists' and Druggists' Association some alterations had been made by the Apothecaries' Company, without either consulting them or apprising them of the fact. A long conversation ensued on the subject of the Examinations. In reply to a question from Mr. Holmes, Dr. Collins said they would entertain no lower qualification than that of the Major Examination of the Pharmaceutical Society. Mr. Holmes urged that an examination of so high a standard as the Major of the Pharmaceutical Society was utterly unnecessary for a proper fulfilment of the duties of a pharmacist. Dr. Collins replied that it was their determination to keep up the standard of pharmaceutical education. Mr. Simpson pointed

out that, under the English Pharmacy Act, it was not necessary to pass the Major Examination to carry on the business of pharmacist, that the Minor Examination was all the law required; and if that was enough for England it should also be considered qualification enough for Ireland. Dr. Leet said that when he received a reply from the Attorney-General he would communicate with the Society, and the deputation withdrew.

On the Monday following (May 4) the usual monthly meeting of the Association was held at the Society's rooms, Molesworth Street, E. M. Hodgson, Esq., President, in the chair. The minutes of the last meeting having been read and confirmed, and several new members proposed, the chairman said that the principal business of the evening was to hear the report from the deputation which waited on the Apothecaries' Company at the request of the Society. He believed that their position with that Company had very much changed since the last meeting. The main object of the deputation was to ask the Apothecaries' Company to join in a deputation to the College of Physicians to discuss the provisions of their Pharmacy Bill. This, however, the Apothecaries' Company had declined. Dr. Leet then informed the deputation that he had forwarded their Bill, as approved by the Association, to the Attorney-General, but it transpired that, according to Dr. Leet's statement, there were some trifling alterations, which had been inserted to please some of the northern apothecaries. On looking into these trifling alterations the President thought them of vital importance. The clauses were then read to the meeting as approved by the Association, and then as altered by the Apothecaries' Company.

The Apothecaries' Company had taken the liberty of changing Clause 3, relating to the constitution of the board of examiners under the Act. In the Bill agreed to by the Society the board of examiners was to consist of the governor, or deputy-governor, with six members of the court of the Apothecaries' Hall, and six members to be chosen by the Chemists' and Druggists' Society of Ireland. Instead of the latter had been inserted, "six apothecaries (not members of the court of the Hall) chosen from the apothecaries of Dublin."

This alteration was unanimously objected to, as the examiners under that provision, would be the very men whose interest would be to keep out the chemists and druggists, and an examining board so constituted could not have the confidence of the members of the Association.

Mr. O'Brien read correspondence which had taken place between the Apothecaries' Hall and this Society in 1870, and remarked that the chemists were in no better position now than three and a half years ago. He had no faith in the Apothecaries' Company, and did not believe that body had any desire for any alteration in the existing pharmacy laws.

Mr. Holmes remarked that if the Apothecaries' Company had forwarded the altered Bill to the Attorney-General, stating that that Bill was agreed to by this Association, they had simply stated what was not true; and he proposed that the secretary be requested to communicate at once with the Attorney-General and inform him that the Bill forwarded to him by the Apothecaries' Company had not the approval of the Association, but that the Association would use every means in its power to oppose it (in its present form). A copy of the resolution to be forwarded also to the secretary of the Apothecaries' Company.

The resolution was carried unanimously, and the proceedings terminated.

It is not always advisable to investigate a subject too thoroughly before lecturing on it. Not long ago the Pharmaceutical Society in Edinburgh was promised a lecture by Mr. Sadler on edible and poisonous fungi, but when the evening came Mr. Sadler was ill. It has since been stated that Mr. Sadler's illness arose under rather singular circumstances. While preparing his lecture for the Pharmaceutical Society he accidentally swallowed a large quantity of the spores of a large species of puff-ball (*Lycoperdon giganteum*), and within the space of an hour-and-a-half was seized with severe illness, accompanied with violent pains. The violent symptoms were not subdued until nine days after the first attack. Sir Robert Christison Bart., Dr. Balfour, and Dr. William Craig, who attended Mr. Sadler, were of opinion that the continued irritation was kept up by the fungus spores. The giant puff-ball is edible in its young state, but its matured spores ought certainly to be avoided.



## Notes from Foreign Sources.

## JABORANDI.

his new Brazilian sudorific, whose powerful effects we alluded in our last issue is receiving considerable attention in Paris, and seems to justify the early reports of its powerful properties. The Société de Biologie, M. Rabuteau made a communication which he narrated a series of experiments he had made with a view of discovering the alkaloid of the leaves if such existed. His report was to the effect that jaborandi is a shrub whose tannic classification has not been defined. The leaves are oval, elongated, entire, from 8 to 12 centimetres in length, and from 1 to 4 broad, with a pinnate venation. The quantity at disposal is too small to admit of exhaustive chemical tests, but M. Rabuteau concluded from his experiments that the leaves of jaborandi have an odour something resembling dry hay, due apparently to a fugitive principle *not analogous* to the essential oils of aromatic plants; that they have a bitter taste due to a principle soluble in water and alcohol, and which can be easily separated by treating the watery extract of the leaves with alcohol. Lastly, the plant seems to contain no alkaloid. M. Rabuteau says these experiments caused him to be very sceptical as to the medicinal virtues of the plant, but in order to complete his investigations he made a cupful of infusion of the remainder of his sample, about 2 grammes 90 c.g., and very soon experienced all the sudorific and sialogogue effects which had been reported by M. Gubler.

## RESULTS OF THE EXAMINATION OF WATER FOR LEAD.

The action of water on lead has of late received a very fair share of attention at the hands of French chemists. It is well known that the presence of certain salts in water prevents contamination of the latter by the leaden pipes through which it flows. M. Balard having set himself the task of determining how these salts act, finds that the nacereous material which is formed in such great abundance when lead is left in contact with distilled water charged with air has the composition  $4\text{PbO}, 3\text{CO}_2, \text{I}_2\text{O}_3$ . This compound is in a state of extreme division, and M. Balard has found it suspended, when not appreciable to the eye, in water which seemed to be perfectly filtered. To ascertain beyond doubt the presence of lead in such a case, it is recommended to boil the water after having added to it some drops of solution of tartrate of ammonium, which dissolves the insoluble compounds; sulphuretted hydrogen then precipitates the whole of the lead, and gives an unmistakable brown colouration. This colouration is feeble if the water has been previously filtered through several papers—indicating that it is due to the substance held merely suspended. Lead is attacked also by a saturated solution of sulphate of calcium; in fact, if the liquid be agitated and then treated as above, the presence of the metal is at once recognised. Lead, says M. Balard, is oxidised in contact with aerated water. If there be in such water a salt, the carbonate or sulphate of calcium, with which the oxide is capable of forming an insoluble compound, this compound is formed, and covers the metal with a strongly adherent incrustation, so as to prevent further attack. But if the water be pure, or if it contain salts of which the acid does not form insoluble compounds with oxide of lead, such as nitrates, acetates, formiates, &c., the action is energetic.

According to M. Besnon, the water vapour produced in the distillation of soft waters or of sea water attacks refrigerators made of an alloy of tin and lead. In ordinary pharmaceutical distillations of water the same action takes place, but here the proportion of lead dissolved is smaller. All the salts in common at or seem to check the oxidation of lead; alkaline carbonates and sulphate of calcium seem to M. Besnon more active than the corresponding chlorides. The water which passes through the pipes of towns does not take up any notable quantity of lead. Such solution could only take place accidentally at a badly made joint, or in a sort of little chamber where the water lodged at the same time that the air was renewed.

In the opinion of MM. Mayençon and Bergeret, sulphuretted hydrogen is not sufficient for the detection of small quantities of lead. Their experience is that sulphide of lead is slightly soluble in water saturated with this gas. After filtration the clear liquid still holds lead in solution, as may be determined by passing a voltaic current—the negative electrode becomes covered with a deposit of lead. The presence of this lead may

be ascertained by exposing the covered electrode for some seconds to chlorine gas, and gently rubbing the chloride formed upon a piece of bibulous paper, imbued with a very dilute solution of iodide of potassium, whereby a yellow stain of iodide of lead is obtained; or the chloride may be transferred to a piece of ordinary filter paper damped, which is afterwards exposed to the action of sulphuretted hydrogen.

The experimenters cited agree that all waters dissolve lead, but in such minute quantity that it is perfectly innocuous as far as the public health is concerned.

## PLANTS FOR MANURES.

According to results obtained by M. A. Boutin,\* certain members of the family *Amaranthaceæ* are remarkably rich in potassium nitrate. Of the numerous plants examined by him, *Amaranthus blitum*, *A. atropurpureus* and *A. melancholicus ruber* are particularly noteworthy. The last is a magnificent plant of exotic origin cultivated in gardens in France for purposes of ornamentation. M. Boutin's analysis shows that after dessication at  $100^\circ \text{C}$ , the tissues contain 16 per cent. of nitrate of potassium—corresponding to 2.2 per cent. of nitrogen and 7.4 per cent. of oxide of potassium. The dried tissues of *A. atropurpureus* give 22.77 per cent. of nitre, or 3.2 per cent. of nitrogen, and 10.7 per cent. of potassium oxide. After drying the plants for some time in the open air, the stem and branches become covered with a crystalline efflorescence of delicate needles of nitrate of potassium, and on incineration burn away almost like gunpowder, so that these plants may be looked upon as true nitre-producing shrubs. In view of these facts, the author asks if it may not be permitted to conclude that, in a future more or less remote, the *Amaranthaceæ* will be cultivated to supply azotised manures, the sources of which are being rapidly drained, although the demand for them is constantly increasing?

## THE CULTIVATION OF SUMACH IN AUSTRIA.

The sumach shrub is found very generally throughout the southern countries of Europe, Spain, Italy, the South of France, and in the Austrian provinces of the Tyrol and Istria. Its leaves owe their value to their richness in tannin. The cultivation of the sumach is very simple, and the cost is but trifling; but unfortunately the country people seem to devote continually less and less attention to it. Instead of collecting the leaves in a somewhat rational manner, it is the general custom to pull up the whole shrub by the roots merely to save a little trouble, and thus future crops are annihilated.

In the Tyrol the sumach harvest is confined to the districts of Roveredo and Bozen. In Roveredo particularly the quantity produced is somewhat remarkable. The plant there grows wild. The peasants gather it in the months of July, August, and September. It is then dried, the leaves separated from the stems, cleaned, and sold to the millers. There are special sumach mills, but they would seem to grind something besides sumach, as the price of the ground sumach is less per hundred-weight than that of the leaves. For a long time the former has been worth from 2 florins to 2 florins 75, while the leaves vary from 3 florins 45 to 4 florins 45.

Previous to the reckless destruction of the plant by the careless method of collecting, the sumach harvest of Roveredo reached about 50,000 cwts.; but it is now much smaller. There are now at work 18 sumach mills, which together produce about 6,000 bales of 250 pounds each, or about 15,000 cwts. (German weight). In Bozen the production reaches about 10,700 cwts., valued at 38,500 florins.

In Istria again, the sumach harvest is not unimportant, especially in the neighbourhoods of Bagliano and Gallignauo. During the season from 3,000 to 4,000 persons are employed in it. From this district some 7,000 or 8,000 cwts. of sumach leaves are exported, chiefly by way of Trieste.

In respect to the proportion of tannin it contains, sumach surpasses nutgalls, gambia, &c. Considering its valuable properties, it is not perhaps so much used as it should be. The bulk of the production is taken in Germany and Switzerland, but considerable quantities are exported from Trieste to England and America. In the year 1873 England imported from Austria alone over 16,000 cwts.

\* Journ. de Pharm. et de Chimie, Avril 1874, p. 285.





## WARBURG'S MEDICINE.

At the Vice-Chancellor's Court on April 23, before Sir R. Malins, a motion was made on the part of Dr. Carl Warburg, an Austrian physician, and the inventor of a medicine called "Warburg's Tincture," or "Tincture Warburgi," to restrain the defendants, who carry on the business of druggists in Newgate Street, under the firm of Francis Newbery & Sons, from selling any medicine in bottles bearing the name of "Warburg's Tincture," or adopting any colourable imitation of the plaintiff's bottles. It was stated that the plaintiff's medicine had been ordered to be supplied for the use of the troops engaged in the Ashantee War. The defendants' excuse for using the name was that the medicine was the property of a Madame de Warburg.

By consent an order was now taken that the motion should be considered as the hearing of the cause, and that there should be a perpetual injunction in the terms of the notice of motion, except that the defendants should have the right to call their medicine "Madame de Warburg's Tincture."

Mr. Glasse, Q.C., and Mr. E. Cutler were for the plaintiff; and Mr. Rodwell for the defendants.

## THE NOBLE ART.

AMONGST 47 persons who were arrested at a gymnastic exhibition at Hulme, Manchester, Mr. Hermann Woolley, chemist, of Cheetham, was brought before the magistrates, charged with aiding and abetting in a prize-fight. It proved that the prize-fight existed only in the imagination of a serjeant of police, whose zeal outran his discretion: the principals were merely sparring with soft gloves on, and had done each other no injury. The magistrates, after hearing one witness, dismissed the case.

## A CURIOUS QUESTION.

MATTHEW BASS SMITH, who a short time ago figured prominently in the charge of murder against Mr. Edmunds, of Newent, in Gloucestershire, was charged at Clerkenwell Police Court with having wilfully used the names and titles of a Doctor of Medicine and a surgeon. The case was a very exceptional one. The defendant had been registered, but owing to misconduct his name had been erased. Mr. Ricketts (for the defendant) contended that his client was still duly qualified, and that the only effect of want of registration was to deprive him of certain professional advantages. The case was adjourned.

## FAMILY JAM AND GOOSEBERRY JELLY.

The secrets of the jam trade have suffered some further revelations during the past month. At Liverpool, Messrs. Stower & Co., jam and pickle merchants, were summoned for selling adulterated black currant jam.

The analyst to the corporation said that the superior family jam which he examined contained over 25 per cent. of adulterated matter, which he believed to be parsnips.

The defendant pleaded the custom of the trade, and said that the words "black currant" were only used to define the principal flavour of the jam; that all the chief makers in the country have a family jam which is made of apples. This assertion has been indignantly contradicted both by Messrs. Keiller and Crosse & Blackwell, who assert that their jams are pure and unmixed, and precisely what the labels represent them to be. The defendant was fined 20s. and costs.

At Greenock "gooseberry jelly" came under investigation. Fruit juice and sugar, the analyst said, were the recognised constituents of this "preserve," but the specimens submitted to him for examination were nearly half composed of "glucose," the qualities of which became the subject of a lively discussion. A Glasgow chemist said it was nutritious; a jelly manufacturer said it was not profitable to use; another, that it was half sugar; and a third, that he did not believe it to be an adulterant. The magistrate, who is probably somewhat obscure respecting glucose, advised manufacturers to prepare their jelly in the proper way, and dismissed the case.

## EXTRAORDINARY FRAUD.

CHARLES ADENEY, an elderly man, was charged before Mr. Vaughan, at Bow Street, on May 4, with defrauding his employers. Mr. W. O. Reader appeared for the prosecutors, and stated that the prisoner was employed as book-keeper in the firm of Low, Son, & Haydon, perfumers, at a salary of 2*l.* per week. It was the custom of the firm to entrust him with money to carry to the London and Westminster Branch Bank, Temple Bar. From a communication made by the manager of this branch, Mr. Haydon was led to examine the bank-book and to compare it with the amounts he had given to the prisoner to bank for him. He discovered that on April 9th a sum of 234*l.* 14s. had been entrusted to prisoner, but in the banking-books there was only a sum of 184*l.* 14s. placed to the credit of the firm. Prisoner admitted his guilt, and states that the sums which he had appropriated at different times amounted to about 616*l.* The case was adjourned.

## RESISTING THE INSPECTOR.

At Stoke Police Court, on May 4, Moses Needham, chemist and grocer, Kids Grove, was summoned for having assaulted William Gifford, assistant to Mr. J. E. Knight, inspector under the Adulteration of Food Act. On the 18th ult. the complainant went into the defendant's shop to purchase something for the purpose of analysis. He bought some assafetida, and on telling the defendant it was purchased for the purpose of being analysed, the defendant snatched it from his hands. Witness, in reply to the magistrate, said that the article was fast in his hand, and the defendant took it away forcibly. The magistrate said he should consider this an assault. It was but a trivial one; still, a person obtaining an article for the purpose of analysis should be protected, or the provisions of the Act would be carried out with difficulty. A fine of 6*d.* and costs was imposed.

## MILK OF SULPHUR.

THE Hackney vestry lately summoned two chemists and druggists—Mr. Nicholls, of 99 Wick Road, South Hackney, and Mr. Maizey, of 2 Market Road, Cassland Road, South Hackney—charging them with selling, as unadulterated, a certain drug or article usually taken as a medicine, to wit, milk of sulphur, which was adulterated contrary to the statute. The case came on at the Worship Street Police Court on May 5, when an application was made to withdraw the summonses. Mr. Wontner, however, who appeared on behalf of the chemists, asked the magistrate to allow costs. The magistrate objected that as notice had been given that the application for withdrawal would be made, Mr. Wontner need not have attended. Mr. Wontner admitted this, but said it was a great hardship on the defendants, after being put to the expense of instructing him, Mr. Wontner, to be told a week afterwards that all that expense was thrown away, because the parish did not intend to proceed. Dr. Tripe asked permission to explain matters, but Mr. Wontner objected, and remarked that he thought the Hackney Vestry might have been professionally represented. Ultimately Mr. Wontner said that if the parish objected to pay the costs he would make them a present of the amount. At the same time he desired to publicly protest against such hasty proceedings on the part of such public bodies, who desired to hold up the drugs of the British Pharmacopoeia as the only good drugs.

## VETERINARY SURGEONS MAY NOT DEAL IN POISONS AS REGISTERED CHEMISTS.

JAMES THURSTON, a veterinary surgeon, residing at Frisingfield, Suffolk, was charged before the magistrates at Stradbroke with selling strychnia in the form of vermin killer, he not being a registered chemist. Our readers will no doubt remember that in last month's CHEMIST AND DRUGGIST we gave details of the case wherein a domestic servant was convicted of an attempt to poison her child—the strychnia had been obtained from the defendant. When Mr. Sutton, of Norwich, in his position as analyst for the county, learned how the poison had been obtained, he at once suggested that the police should purchase some and prosecute the seller. He, also, as a member of the council of the Pharmaceutical Society, gave evidence that the fact of defendant being a member of the College of Veterinary Surgeons did not entitle him to act as though he were a registered chemist. On hearing the defendant's explanation, pleading ignorance of the fact, the magistrates, taking into account his respectability and good character, and believing that he had acted innocently in vending the poison, determined to fine him the nominal sum of 6*d.* and costs. The costs, 4*l.* 6s. 6*d.*, and fine, 6*d.*, were at once paid.





The following list has been compiled expressly for the CHEMIST AND DRUGGIST by L. de Fontainemoreau & Co., Patent Agents, 4 South Street, Salisbury, London; 10 Rue de la Fidélité, Paris; and 33 Rue des Minimes, Brussels.]

Provisional Protection for six months has been granted for the following:—

1. C. Tapp, of Mexbrough, York. Improved apparatus for bottling aerated and other liquids. Dated March 6, 1874.
  2. A. G. Hunter, of Flint, North Wales. New and improved apparatus for carburetting atmospheric air, and improvements in other apparatus connected therewith. Dated March 13, 1874.
  3. E. T. Hughes, of London. Improvements in the manufacture of the salts, carbonates, and hydrates of baryta and strontia, and also for improved modes of making baryta and strontia caustic. Dated March 13, 1874.
  4. S. Nield and B. Foster, both of Leeds, York. Improvements in the manufacture of prussiate of potash and prussiate of soda, and in the means employed for collecting and utilising the gases and other substances emitted in the manufacture thereof. Dated March 13, 1874.
  5. F. H. Oolee, of Rose Cottage, Swinton, near Manchester. Improvements in means for raising or adjusting operating chairs, invalids' coaches, and other analogous appliances. Dated March 14, 1874.
  6. E. Giampietro, of Naples, Italy, doctor of medicine. An artificial tympanum. Dated March 23, 1874.
  7. J. S. Clarke, of Liverpool, surgeon. Improved means and appliances for audibly indicating the removal from their ordinary stands of bottles and vessels containing poisonous substances. Dated March 25, 1874.
  8. E. A. Kirby, of St. Pancras. Improvements in the manufacture of lozenges or troches; and in the preservation in this form of animal and vegetable juices and extracts for nutritive, medicinal, and other purposes. Dated March 25, 1874.
  9. H. A. Dufrené, of 10 Rue de la Fidélité, Paris. An improved process for heating madder, for obtaining and separating alizarine and purpurine therefrom. Dated March 27, 1874.
  10. W. Darlow, of 435 Strand. Improvements in trusses, splints, and other surgical appliances employed for affording support to the human body or limbs. Dated March 31, 1874.
  11. W. Crookes, of Mornington Road, Regent's Park. Improvements in the treatment of waste or refuse animal or nitrogenous matters for the purpose of producing fertilising substances or artificial manures. Dated April 2, 1874.
- Letters Patent have been issued for the following:—
1. W. Whitbread, of Liverpool, analytical chemist. A new disinfectant and oxydising agent. Dated Sept. 30, 1873.
  2. R. S. and J. Dale, of Manchester, chemists. Improvements in evaporating and concentrating solutions of caustic soda, potash, and their salts, acid liquors occurring in the manufacture of oxalic acid, and also gelatine. Dated Oct. 2, 1873.
  3. R. Hutchinson, of Glasgow, oil manufacturer. Improvements in treating oils and fats. Dated Oct. 10, 1873.
  4. E. Smith, of Glasgow, manufacturing chemist. Improvements in removing sulphur from caustic soda or ammonia when containing sulphides. Dated Nov. 3, 1873.
  5. B. Hunt, of London. Improved processes for the extraction of iodine. Dated Nov. 15, 1873.
  6. J. B. Mitchell, of 14 Thistle Grove, South Kensington, doctor of medicine. An improved anodyne compound. Dated December 24, 1873.
  7. J. J. Bodmer, of 23 The Grove, Hammersmith. Improvements in the treatment of peat, sewage deposit, and substances used in the manufacture of artificial manure, and in the application of part of the said materials as fuel, and as parts of compounds for metallurgical operations. Dated December 31, 1873.
  8. W. E. Newton, of London. An improved process for preparing hydrate of magnesia. Dated January 6, 1874.
  9. H. Deacon, of Appleton House, Widnes, Lancaster. Improvements in the treatment of impregnated porous substances employed for effecting chemical decomposition of certain gases at an elevated temperature. Dated January 12, 1874.
  10. C. A. Lippincott, of Aylesbury, Bucks. Improvements in the manufacture of condensed milk. Dated January 19, 1874.
  11. G. Reel, of Leicester, miner water manufacturer. Improvements in stoppers for bottles to contain aerated liquids. Dated Feb. 2, 1874.

425. C. Lowe, of Reddish, Lancaster, manufacturing chemist. Improvements in the separation and utilisation of certain mixed chemical products. Dated Feb. 3, 1874.
561. N. Thompson, of Southampton Buildings. Improvements in means for stopping bottles, jars, and other hollow articles, which invention is applicable to means for connecting together tubes and other articles. Dated Feb. 14, 1874.
595. J. H. Johnson, of London. Improvements in the production of salicylic acid, and of the isomeric and homologous acids. Dated Feb. 17, 1874.

Specifications published during the month:—

Postage 1d. each extra.

1873.

2458. T. F. Lynch. Feeding bottles. 6d.
  2574. F. J. King. Separating ores, &c., from carbonate of iron. 10d.
  2691. E. G. Banner. Disinfecting apparatus. 10d.
  2739. H. Kenyon and another. Manufacture of sulphate of soda, chlorine, hydrochloric acid, and cements. 4d.
  2751. P. Villiers and another. Impregnating air for the lungs, &c. 4d.
  2790. W. Crookes. Treating refuse for producing artificial manures. 6d.
  2825. J. Durant. Administering medicine to horses, dogs, &c. 4d.
  2873. D. A. Fyfe and another. Recovering alkali from waste liquor. 10d.
  2891. S. H. Johnson. Separating sulphur from ore or spent oxide of iron, &c. 4d.
  2894. D. Mackay. Blisters. 4d.
  2916. D. Brown. Stopping bottles. 4d.
  2920. J. J. Perry. Stoppers for bottles, &c. 6d.
  3009. T. Baker. Stoppers for casks, jars, bottles, &c. 4d.
  3013. E. T. Hughes. Manufacture of carbonates of baryta and strontia. 4d.
  3080. C. D. Abel. Blue dye. 4d.
  3092. H. Deacon. Manufacture of alkali. 4d.
  3137. J. F. Chevalier. Liquid polish. 4d.
  4290. B. Hunt. Nutritive hygienic compounds. 4d.
- 1874.
92. C. E. Blake. Foil for stopping teeth. 4d.



#### BANKRUPT.

RIBSDALE, GEORGE, 35 Euston Square, surgeon. April 11.

#### ARRANGEMENTS AND COMPOSITIONS.

Notices of first meetings of creditors have been issued in *re* the following estates. The dates are those of the notice:—

- ARROWSMITH, GEORGE PATINSON, 26 Prospect Place, Cambridge Heath, chemist. April 30.
- ASHTON, NICHOLAS T., Hayle and St. Ives, Cornwall, chemist, photographer, fruiterer, and fancy goods dealer. April 29.
- BEADEL, ALFRED, Cullercoats, Northumberland, trading as GILPIN & Co., at Newcastle, chemist. May 1.
- BRADSHAW, DAVID, 45 George Street, and 17 Princess Street, both Manchester, dyer and aniline dye merchant, and tailor.
- BURN, THOMAS, Salem Street and Peel Street, Sunderland, chemist. May 2.
- GREGORY, WILLIAM HENRY, Ardwick Green, Manchester, M.D. April 24.
- HAMPSON, PETER, trading as P. HAMPSON & Co., 25 Churchgate, Bolton, druggist and oil-merchant. April 30.
- HART, WALTER, 67 Borough Road, and 38 Blackman Street, surgeon. April 2.
- POOLE, GEORGE, 10 Cumberland Street, St. Paul's, Bristol, dentist. April 29.
- WOOD, WILLIAM, trading as WILLIAM WOOD & Co., Woodhouse Lane, Leeds, manufacturing chemist. April 24.

#### DIVIDENDS.

- GRAM, BENJAMIN (Bkt.), Blackman Street, Southwark, chemist. 3rd div., 1/12; Wednesday next and two subsequent Wednesdays between 11 and 2; P. Paget, Bankruptcy Court, Basinghall Street.
- SHARPLES, GEORGE W. (Liq.), Blackpool, chemist. 2nd and final div., 5/-; J. Hardman, at Charnley, Son & Finch's, Blackpool.
- WILLIAMS, DAVID M. (Liq.), Olney, Bucks, surgeon. 2nd and final div., 10d.; W. R. Bull, Union Street, Newport Pagnell.

#### BANKRUPT DISCHARGED.

LEA, GEORGE, Gloucester Terrace, Albany Road, Camberwell, patent medicine vendor. Discharge granted April 16.

#### PARTNERSHIPS DISSOLVED.

- MCKINLAY, J. & Son, Strabane, Ireland, timber merchants, saw millers, cartwrights, chemists, and smiths. Mar. 16.
- SNOW, MAUNDER, KELLY & JAGO, trading as THE IMPERIAL SOAP Co., Plymouth, soap manufacturers and soda dealers. April 11.
- WAITE & KITE, Ormond Villas, Cheltenham, chemists. Jan. 1. Debts by William T. Kite.
- WEST & MANN, Birmingham, and Acocks Green, surgeons. Mar. 25.
- WHIDBORNE & COXWELL, Northbridge House, Exeter, physician. Mar. 18.
- WILTON & NICHOLLS, Brighton, surgeons. Mar. 30.





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#### THE PROSPECTS OF PHARMACY IN IRELAND.

ONE would like to say a good word for the Apothecaries' Company of Ireland if it were any way possible, for, with ruin staring in its face, and abandoned by all its friends, its desolate condition can but arouse the sympathy of every generous soul. But it is impossible to conceal from view the fact that the Company richly deserves the fate which has overtaken it. It has been playing a double game for forty years past in the sense of trying to serve the two mistresses, Medicine and Pharmacy; and it seems to have served them both but indifferently. At any rate it is admitted on all hands, and indeed is virtually confessed by the Company itself, that it has failed to supply the reasonable pharmaceutical requirements of its country. Of late, however, it has played a double game in another sense, and has this time most certainly played it badly. Admitting, as they could not help doing, the force of the argument addressed to them, that the elaborate medical training which they demand of every one who would fully practice pharmacy in Ireland was a superfluous curriculum, the Court of Directors, with some show of cordiality and magnanimity, agreed to the request of the Chemists' and Druggists' Society to ask Parliament for powers to grant a license for the practice of pharmacy alone, to be obtainable after an appropriate but sufficient examination. If the Court had been left alone, it is likely enough they would have carried through this prudent policy straightforwardly, and we should probably have had the satisfaction of composing a panegyric to their glory. But a difficulty occurred, and the Court was too weak to conquer it. This is the best excuse we can give for them, but it is obviously a poor one. We are all immaculate till we are tempted, and the Apothecaries' Company yielded its honour at the first attack. Its licentiates throughout the island recognised that their vested interests were in danger, and they were not slow to make their grievances heard at head-quarters. The Court had then the choice of two courses, both equally honourable. They might have resisted their impetuous constituents and endeavoured to reason them into a perception of the prudence of the proposed course, or they might have openly abandoned their new allies, the chemists and druggists. They did neither. Their plan, as it has been lately made manifest, seems to have been simply and solely to "dish the druggists," if we may thus venture to parody the classical expression of one of our eminent statesmen. It had been agreed between the Court and the Chemists' and



Druggists' Society, that the Board of Examiners for the new Bill should consist of the Governor or Deputy-Governor of the Hall, six members of the Court, and six members to be chosen by the Chemists' and Druggists' Society. For the latter case the Apothecaries' Company quietly substituted "six apothecaries not members of the Court." By this means they would have managed to place the whole of the examining, and consequently the vetoing power, in the hands of men directly interested in refusing the new licenses. They made this vital variation without consulting, or even informing the Chemists' and Druggists' Society, and what was worse, they coolly sent the Bill to the Attorney-General with the assurance that it was agreed to by the Association of Chemists and Druggists of Ireland.

It is not surprising that the Dublin druggists should have been indignant when they discovered this instance of perfidy on the part of their professed friends; but they could afford to regard this treachery with something like equanimity, for meanwhile a new power had interposed as unexpectedly as the fairy godmother came to the aid of Cinderella. To everybody's surprise the King and Queen's College of Physicians appeared suddenly on the scene with a short, simple, and effective Bill, the purpose of which was to extend the Pharmacy Act of Great Britain to Ireland. Why this august body should interest itself in the matter was not at first sight so obvious to outsiders as it was to those behind the scenes. The age of miracles had passed, the days of chivalry had gone by, so it was necessary to seek another motives the reason for this unprecedented favour. Humanity may blush to learn that it is probably to be accounted for less by the desire of aiding the druggists than by the hope of injuring the apothecaries. From the Irish physician's point of view the Apothecaries' Company has unwarrantably pushed its way into medical practice, and they maintain that its rightful place is to superintend the practice of pharmacy, and that alone. As a medical corporation, the Apothecaries' Hall has not been a success; if its pharmacy business is taken from it, its very existence will be imperilled. No wonder, therefore, that the Governor of the Hall should have issued a circular which bears on its face evident signs both of alarm and anger. We publish the arguments of the Court against the Bill proposed by the College elsewhere, but it is not necessary to criticise them here. The Company expressly states that its chief objection to the Bill is, "that they have a Pharmacy Act of their own, which does not disturb vested rights." Unfortunately for this argument it happens that the disturbance of vested rights is exactly the object sought after. With the arguments a circular has been addressed to each licentiate of the Hall, urging him to exert all his influence to checkmate the College by passing the Bill framed by the Hall. With a pathos comic for its candour the Governor states that "the Company have had no alternative between the injurious Bill of the College and the framing of one in its place, adapted to the special condition of Ireland, and to the saving, as far as they could, the rights and interests of their licentiates." What a damning indication of the disinterested desire of the Company to promote the pharmaceutical welfare of Ireland!

It seems to us that the Chemists' and Druggists' Society may quietly rest on their oars, and let the corporations fight out the battle for them. They are not concerned in the professional jealousies which smoulder in the medical bosoms, nor, after their own treatment, can they seriously sympathise with the vexation of the Hall at the alleged discourtesy of the College in bringing forward their Bill without any notice or consultation. Dr. Leet's anger on this point must have recalled the legend of Satan reproving Sin. But both they and the Pharmaceutical Society might with advantage keep on the watch for an opportunity to help forward the sensible Bill proposed by the College of Physicians.

The amalgamation of the pharmacy of the two divisions of the United Kingdom could hardly fail to result beneficially to both sides, as well as to pharmacy itself. The anomalous condition of the present pharmaceutical regulations of Ireland certainly needs correction, as the apothecaries themselves admit, while the injury to vested rights will prove more fanciful than real. At this moment the unlicensed chemist and druggist may sell any and every drug or poison in the universe, and his only forbidden fruit is the preparation of physicians' prescriptions. Suppose the Pharmacy Act of Great Britain should be extended to Ireland, the existing apothecaries will still retain the extra power and *prestige* for which they have studied and paid. If they say that such extra power and *prestige* is useless to them, that is but one more condemnation of the system. The only question for Parliament to consider is, whether in Ireland alone in the world there can be any special necessity for a three years' course of medical instruction to fit a man to dispense a prescription. The prosperity of Apothecaries' Hall is not a factor which should affect the result.

#### THE PHARMACEUTICAL REPORT.

WE have previously commented on nearly all the subjects alluded to in the Pharmaceutical Council's report for this year. It now awaits the criticism of those to whom it will be presented on Wednesday next. The subjects most prominently thrown out for discussion are the proposal to endow a number of additional scholarships, and the suggested extension of the benefits of the Benevolent Fund. The first of these will open up the whole range of the provincial education question, and will probably leave it in its chronic condition of vague haziness. The financial statement for 1873 shows the usual income of over 10,000*l.*; but it does not appear that the Society has saved money quite so abundantly as in recent years. A purchase of 2,500*l.* worth of Three per Cents. has been made; but it also appears that 700*l.* worth have been sold out. Besides this there was 850*l.* in hand at the beginning of the year, a balance which was reduced to 180*l.* in December. The exact amount saved by the Society during 1873, as shown by these figures, was 988*l.* 13*s.* 5*d.* This is worthy of consideration in connection with the "additional scholarship" scheme. The loss on the journal has made an alarming leap from 407*l.* in 1872, to 985*l.* in 1873. This item is of course not a correct statement of the journal account, as the latter is not credited with any part of the subscriptions to the Society. An interesting point is suggested by the amounts received for registration. From these it appears that not less than 500 men were certified to be duly qualified as chemists and druggists during 1873, while over 800 took their first step into the trade in the same period by passing the "preliminary." From these registration fees the Society derives the largest item of its income. Whether that may be expected to be permanent depends on whether the trade can assimilate 500 new members annually.

We are sorry that we cannot congratulate the Council on the conspicuous elegance of their report in a literary sense. The sentences are painfully embarrassed with parenthetical clauses which detract from their clearness, while in the closing paragraph the writer seems to have let go the rudder altogether. Properly desirous of paying a tribute of well-won respect to those honoured men we have lately lost, the report tells us that Mr. Morson and Mr. Deau, "with William Allen, Jacob Bell, and others, some whom we have lost, some whom we yet retain among us, worked nobly, through the means of this Society, to elevate all chemists and druggists to the higher level which they now occupy." They did work nobly, it is true, but not exactly with the object attributed to them in the Council's report.





## THE RIGHT OF CHEMISTS TO PRESCRIBE.

SOMEBODY writes to the *British Medical Journal* complaining of the prescribing practices of some chemists, and especially instancing the "pharmaceutical chemist" in the Tichborne case who, in reply to the Lord Chief Justice, stated that he was entitled by law to prescribe medicines. Like "truthful James," this correspondent "asks with a sigh, can such a thing be?" To which enquiry the editor responds thus clearly:—

"The right of 'prescribing' medicines is one which the law does not confine to the medical profession, but accords to every subject. The selection of medical advisers from the ranks of qualified or of unqualified practitioners is one which is at present equally the privilege of every Briton. A chemist has a legal right to call himself a prescribing or a family chemist, or to adopt another mode of describing himself. The title of dentist is not in any way protected; every man has the right of pulling teeth. The preamble of the Medical Act accurately defines its object: it is to enable the public to distinguish between qualified and unqualified practitioners, and to prevent the fraudulent assumption of chartered and registerable titles. If any poor man or rich man select the unstamped and unregistered article because it is cheaper or more convenient, or because it pleases his ignorant fancy, the law does not interfere to prevent him. On the other hand a terrible responsibility lies upon chemists who undertake the most anxious and serious duty of treating disease. They are obviously unfitted for it; they have neither time, education, nor opportunities to fulfil the duties of diagnosing and prescribing for disease. The Pharmaceutical Society justly discourages the evil practice; and an enlightened opinion will not hold them guiltless of the mischief which they do, and of the deaths of which they incur the responsibility."

## MILK OF SULPHUR.

THE sanitary authorities of Hackney lately issued summonses against several chemists of the borough for selling milk of sulphur alleged to be adulterated. It is believed that the analyst, or some of his myrmidons, having purchased some of the compound which has been known under the above tempting title from time immemorial, examined it, and found it not to be precipitated sulphur. The discovery was not particularly startling, but it was just one of those little technicalities which, if undefended, can easily be dressed up so as to produce the now familiar spectacle of an active and conscientious analyst, an indignant magistrate, a terrified public, and a few virtuous but despairing newspaper paragraphs. But it leaked out that one of the wholesale houses, Messrs. Preston & Sons, we believe, was stirring in the matter, that Mr. St. John Wontner had been retained, and that possibly such an exposure as Dr. Dupré brought on his employers at Westminster lately might be repeated at Worship Street. Consequently, or at any rate subsequently, a notice was sent round announcing that all the cases would be withdrawn. The Hackney Board lives to fight another day.

But it is important for chemists and druggists to be watchful, and the wholesale trade should also be on its guard. They must carefully separate in their minds the terms *lac. sulphuris* and *sulph. precip.* No doubt any one asking for "milk of sulphur" gets what he wants when he is supplied with a certain mixture of precipitated sulphur and sulphate of lime; and we may add, too, that he probably gets a very useful medicine. In a legal sense the analyst has no right to demand that milk

of sulphur shall be other than this long-established and long-accepted mixture. Confessedly, it is not precipitated sulphur; nobody ever said it was. It is not cream cheese; but then, equally, no one has asserted it to be that luxury. It is simply an article which, under a meaningless title, the public has learned to like, and which the public will have.

If the chemists can educate their customers to take precipitated sulphur instead, so much the better, perhaps; but it can hardly be maintained that the chemist is bound to do this, or that the public must surrender its old friend. But now that we are getting so very exact in our terms it will have to be understood that when precipitated sulphur is asked for, or *sulph. precip.* ordered of the wholesale druggist, the pure article, and that alone, must be supplied.

## AMERICAN DRUGGISTS AND THE "CRUSADE."

THE wonderful anti-liquor crusade of the women in certain of the United States is a serious matter for the druggists of the districts marked out for regeneration. These ladies know what they are about, and lay their schemes and carry them out with a Napoleonic skill. Their crusade is generally announced as against "the saloon-men and druggists." The former are the central battalions of the enemy; but the assailants by no means disregard the wings. And they have some reason in this. Many of the low druggists' shops of America are little better than disguised liquor bars, while under the title of "tonic bitters" an almost fabulous trade in strong spirits is done throughout the Union. The soda fountains, too, often serve as engines for the administration of alcohol, and physicians are not wanting who have laboriously sought in the classics the Latin equivalents for "rye whiskey" and "sherry cobbler." Who can question, therefore, the soundness of the tactics displayed by the ladies? A correspondent of the *Druggist's Circular*, writing from Mount Gilead, Ohio, tells how he has been "this day interviewed by a band of crusaders numbering eighty-four ladies of diversified ages." Another correspondent, addressing the *Tennessee Pharmacal Gazette*, plaintively offers a compromise with the ladies, proposing a pledge "to sell no alcoholic liquors in the guise of soda water," the demands of the temperate ones being much more radical than this. Some druggists write heartily wishing success to the movement, and others complain of the interference; but what is most singular is that nobody seems to resist it. A man who would bear the attack of "eighty-four ladies of diversified ages" without brandishing a carving-knife must be something too angelic for this world, or, at least, for this hemisphere.

## PHILANTHROPIC PHARMACY.

A PHARMACY is to be established in St. Petersburg, if the necessary permission is obtained from the authorities, which will undertake to dispense 30,000 prescriptions annually at a fixed charge of twenty-five copecks each (about ninepence-halfpenny). It is stated that the poor can already obtain medical advice at a trifling cost, but that the expense of obtaining the medicines is their main difficulty. The scheme will probably provide that subscribers to the "charity" shall have a certain number of blank prescription forms in proportion to the amounts they contribute. If this surmise be correct it would seem as if the promoters of this idea were rather smart business men. A big shop with a guaranteed supply of 30,000 average prescriptions at 9½d. each, and an extra income in the way of subscriptions, would probably turn out a profitable speculation. We obtain our information as to the proposal from the *London Medical Record*, which quotes from the *Voix* of St. Petersburg.



## CORTEX RHAMNI FRANGULÆ.

The medical journals of this week do not wax wroth on the pretence of prescribing chemists it will not be the fault of Mr. Edward W. Giles, of Clifton. To discover that gentleman transgressing the rules of pharmaceutical etiquette is as great a surprise as it was for the Israelites to observe Saul among the prophets. But the instance lies before us in the last number of *Pharmaceutical Journal*. In that issue Mr. Baildon, of Edinburgh, advocates the claims of the bark of *Rhamnus frangula* to a place in our official "Materia Medica" as a mild efficient purgative. As a support to his own observations, Baildon quotes (with permission) from a letter written by Giles. As our object in this note is quite as much to publish the virtues of *Rhamnus frangula* as to comment on Mr. Giles, we copy his remarks almost entire. That gentleman says:—

I think that I once took it experimentally, and found that it produced precisely the action attributed to it in your paper, viz., to the Conference in Edinburgh, viz., a natural movement of the bowels without drastic action. *I have recommended it steadily when occasion has offered*, and the consequence appears to be that the few cases who require habitual laxatives make a trial of the *Rhamnus* stick to it pertinaciously. The surgeons who have tried it tell me that it has answered in treating habitual constipation in a marvellous manner, in everything else seemed to lose its power. It appears to be a tonic and aromatic qualities which stimulate the muscular action of the bowels, as distinguished from the cathartic effects produced by irritating purgatives through the influx of serum into the bowels, which latter action must necessarily be attended with debilitating effects. I feel that the *Rhamnus* fills up all that was wanted in purgatives in our 'Materia Medica,' which are now copious in that class of medicines, including aloes, colochin (extract) and senna (syrup if well made). I entirely agree with your opinion, that it should be included in the *Pharmaceutical*, and will willingly support your suggestion to that effect."

The italics are our own.

## LEAD IN AERATED WATERS.

CORRESPONDENCE has recently taken place in the columns of *Times* as to the alleged danger of lead-poisoning from the use of "syphon bottles" for aerated waters.

The origin of this alarm was that in a recent number of the *British Medical Journal* there appeared a letter dated February 9, 1874, and signed "M.D., F.R.S.," drawing attention to the examination of eight bottles of aerated water, each of which was stated to contain lead. The writer thought that the results of the examination should be made known to the medical profession and the public, he regarding such aerated water as a source of poisoning by lead. The editor of the journal, commenting on the letter, suggested that although the evidence as regards the presence of lead was strong, the metal was probably not present in all syphon bottles of aerated water.

Being considerably interested in this matter as manufacturers of the metal fittings of syphon bottles, Messrs. Hayward Tyler & Co. requested Professor Attfield to make an extended investigation of the subject, and they have kindly placed that chemist's report before us.

The first experiments were directed to ascertain the presence of any metallic impurity at all, and for this purpose specimens of aerated water in syphons obtained from various makers, in London and country, were examined. Very careful testing revealed the presence of minute traces of tin, but in no case was any lead discoverable. The ferrule of the syphons, which is the only part of them that comes in contact with the water, was also analysed, and found to be pure tin. The taps were found to be of pewter, the metal used for publican's pots.

Another interesting series of experiments was as follows:—

1. Some tin ferrules were placed in pure distilled water, in water containing the aerating gas, and in aerated water containing

the carbonated alkali generally present in aerated alkaline waters. Each of these liquids dissolved a trace of tin from the ferrules. 2. Into each of the three liquids named a tap was placed. Only in the distilled water was any metal from the pewter detected, showing that the aerated water of syphon bottles cannot dissolve any of the pewter of the tap through which it flows when the vessel is in use. 3. A pewter tap, coated with silver inside and out, did not yield a trace of metal to either of the three liquids. 4. The three metals mentioned were exposed in the three liquids mentioned for one day and then tested, for two days and then tested, and for three days and finally tested. The results were as already indicated, namely, that only the harmless metal tin is slightly, very slightly, attacked by aerated waters, an insignificant trace going into solution. One would need to drink half a gallon of such aerated water before a medicinal dose of a soluble compound of tin had been imbibed.

The analyst therefore concludes that there is not the shadow of danger of lead being dissolved in aerated waters; that both those in syphons and those in corked bottles may contain a minute trace of tin, the latter deriving it from the tinned vessels employed in the manufacture; that the danger of this is in no respect greater than that of eating food which has been cooked in tin saucepans, &c.; and, finally, that by the employment of silvered vessels and of silvered ferrules, even this chance may be completely precluded.

## PORK, A POISON.

DR. MADISON MARSH, of Port Hudson, Louisiana, writes in the *Philadelphia Medical and Surgical Reporter* an article on Jews and Christians, in which he states that from his own observation and from enquiries he has made he believes that the former race enjoys almost an immunity from consumption. He also finds from statistics that Jews have a longer average longevity than Christians. Tables compiled in Germany, France, and England, he says, reveal the astonishing facts, that in the first five years of life, of one hundred children of Jews twelve die; of one hundred children of Christians, twenty-four die. Among one hundred Christians thirty-eight attain to fifty years, and fifty-four among Jews. Thirteen Christians attain to seventy years, while twenty-seven Jews attain the same age. One quarter of Christians attain only six years and eleven months; one quarter of all Jews, twenty-eight years and three months. In endeavouring to affix an explanation to these singular results the doctor's faith oscillates between miraculous interference and the avoidance of pork.

## THE EXHIBITION.

THE International Exhibition of this year, while it presents no features of special technical interest to us as chemists and druggists, is nevertheless, we think, equal to its predecessors in general attractiveness. The picture galleries are where most of the visitors do congregate, and with good reason, for besides many beautiful works by living artists in this and other countries, there is a most valuable collection of the sketches and paintings of Constable, David Roberts, Wilkie, and others. Amateur and commercial lace collectors have supported that department *con amore*, and the display of lace and lace embroidery is both varied and abundant. As much cannot be said of the bookbinding and civil engineering departments: these can hardly be regarded as creditable. We hope to report a closer examination of a few of the scientific inventions exhibited, which are not very numerous, and our report on the viues must be postponed until we can secure a representative who will undertake the duty thoroughly and conscientiously.





The ninth volume of Messrs. Henry S. King & Co.'s very successful International Scientific Series is entitled "The New Chemistry," and is written by Professor Josiah P. Cooke, of Harvard University, U.S.\* The volume is mainly the reproduction of a course of lectures delivered by the Professor a year or two ago at the Lowell Institute, Boston, and it aims to present to a fairly-instructed audience the outlines of the most modern views of chemical science, not without, at the same time, indicating the points of difference between present theories and those which we may now term the theories of the old school. The transition condition of the science as it necessarily appears in all our modern manuals and text-books doubles the difficulty of studying chemistry. It seems to be essential that every scholar must yet, and perhaps for the next twenty years, get at the ideas of modern chemistry through the older portals. Without such a process he cannot perceive the line of thought which has led to the evolution of the amazingly delicate structure which constitutes the new chemistry. Professor Cooke is particularly happy in tracing out this line, and his readers will hardly fail to catch some of his enthusiasm as he sketches the calculations and draws the conclusions by which modern investigation has edged glimpses of such marvellous order of arrangement even in the composition of a molecule, thousands of steps further down in the micro-world than the most powerful lenses can yet reach. The author gives, too, some very striking illustrations by which he associates new and difficult ideas with homely conceptions, so as to make them readily perceived by a mind to which they are fresh. An instance of this is the suggestion, in explaining the theory of quantivalence, that we may regard the elementary molecules as provided as it were with one, two or more hooks by which it can combine with the molecules of other bodies. Thus hydrogen, which is univalent, has but one hook, oxygen, a bivalent body, has two hooks, carbon has four hooks, and phosphorus five. Another very striking idea presented by this thoughtful writer is a paragraph in reference to the phlogiston theory of Stahl, which occurs at the end of the tenth lecture. It is not reasonable, thinks Professor Cooke, to suppose that a theory so universally accepted by thinking men should be altogether absurd, and he points out that by merely substituting the word *energy* for Stahl's *phlogiston* we have "the modern doctrine of conservation of energy—one of the noblest products of human thought." We continue the quotation:—

It was not a mere fanciful speculation which ruled the scientific thought of Europe for a century and a half. It was a really grand generalisation; but the generalisation was given to the world clothed in such a material garb that it has required two centuries to unwrap the truth. Still, the sparkle of the gem was there, and men followed it until it led them into a clearer day. It is a great error to suppose that the theory of Lavoisier superseded that of Stahl. It merely added to it. Stahl clearly saw that the chief characteristic of burning was the development of energy, and, although he called energy phlogiston, and did not comprehend its real essence, he recognised that it was a fundamental principle of Nature. He did not understand the chemical change which takes place in the process, and this Lavoisier discovered. But both Lavoisier and his followers, to a great extent, ignored the more important phenomenon in magnifying the less, and it is only within a few years that the true relations of the two have been understood. All honour to these great pioneers of science, and let their experience teach us that, in science, as in religion, we see as through a glass darkly, and that we must not attach too much importance to the forms of thought, which, like all things human, are subject to limitations and liable to change.

We observe that in the same series the publishers announce a work by Professor Odling with the same title as this. We shall be curious to contrast the treatment of the same subject by the American and English chemists.

The *Homœopathic World* puts the back of a correspondent, a teacher in a Sunday school, who writes "that he is aiding in the dissemination of homœopathic knowledge amongst his scholars by distributing our *tractates*. We think much may be done by thus directing the thoughts of the young and unprejudiced to this important subject, especially as the influence of a conscientious Sunday school teacher is often second to no other in the case of his young friends." This is somewhat similar to the company lately started in London for establishing agencies for packet teas among Wesleyan ministers.

We have received the "Calendar of the Pharmaceutical Society for 1874." This useful annual is the authorised exponent of the by-laws and regulations affecting all departments of the society. Published at 17 Bloomsbury Square for 1s.

Messrs. Churchill announce the early publication of an important work on "Medicinal Plants," by Robert Bentley, F.L.S., and Henry Trimen, M.B., F.L.S. It is to appear in monthly parts and to be illustrated with coloured plates.

The latest issue in Messrs. Longman's series of "Text-Books of Science" is a valuable introduction to analytical chemistry, by Dr. Thorpe and Mr. Pattison Muir.\* The first part of this book (about 90 pages) is devoted to the study of the metalloids and their more important compounds. The authors give minute and detailed instructions for the fitting and arrangement of apparatus, in a manner deserving high commendation, being thoroughly practical and true to the ordinary work of a chemical laboratory. The student is told not merely what he is to do, but the thing to be done first, so as to save time and have things ready when required. There are numerous excellent illustrations accompanying this part of the work, and at the end of each lesson there is a *resumé* of the subject of the lesson, to recall and thus impress on the memory of the student the facts which he has just learned. After this admirable introduction to the science of chemistry the student is expected to have acquired sufficient elementary knowledge and manipulative skill to enable him to commence qualitative analysis, which occupies the second part of the work (about 140 pages). Space does not permit us to dwell at length upon the manner in which the authors have treated this branch of their subject; it is only justice to say that it is admirably handled. There are five sections, embracing general preliminary operations, systematic qualitative analysis, detection of the rare elements, detection of poisons, and the examination of urine and urinary calculi. We are glad to see that instead of ignoring the spectroscope, as is too frequently done, the authors describe the construction and application of this most valuable instrument. As a frontispiece there is a map of the spectra of the metals of the alkalies and alkaline earths. Altogether we have formed a very favourable opinion of this book, which we must consider one of the best of the series in which it is published. We do not know of a more suitable book to place in the hands of a student entering upon the study of chemistry.

A sixth edition of Dr. Ruddock's cheap but comprehensive "Homœopathie Vade Mecum" has been recently published. The publishers (the Homœopathic Publishing Company) inform us that the present issue consists of ten thousand copies, a figure which must render allopathic pursuit hopeless. If we grant, however, the soundness of the framework, we can fairly add that Dr. Ruddock has so fully and clearly filled in the design that his work well deserves the unusual success it has gained.

We have received in pamphlet form a lecture on the characters, properties, and uses of the *Eucalyptus Globulus*, delivered to the Fellows of the Royal Botanic Society, by Professor Bentley. The immense size of these Australian "gum trees," combined with their hardness and straightness, renders them of extreme value as timber-producing trees. Planks have been cut, says Professor Bentley, 160 feet in length, 20 inches broad, and 6 inches in thickness. Its sanitary value is very great. Planted in marshy districts its widely extended roots suck up the surrounding water like the sponge, and the author of this paper believed that its anti-malarious properties are also due in no small degree to the aromatic odours which are emanated from it, thus supporting the theory of disinfection by perfumes which Mr. Rimmel has advocated in these pages. The oils obtained from the various *Eucalypti* are being employed in several methods. Some are of value as solvents of resins in the preparation of varnishes, others have come into use in perfumery, while others again possess in the opinion of many eminent authorities important medicinal virtues, especially against fevers and asthmas. Professor Bentley thinks there is but very small chance of acclimatising this beautiful and useful tree in England, in spite of the fact that two specimens have been reported to have lived through two winters at East Grinstead, in Sussex.

\* "The New Chemistry." By Professor JOSIAH P. COOKE. International Scientific Series. London: Henry S. King & Co.

\* "Qualitative Chemical Analysis and Laboratory Practice." By T. E. THORPE, Ph.D., F.R.S.E., &c., and M. M. PATTISON MUIR, F.R.S.E. London: Longmans, Green & Co.



consumers, dealers, and professional analysts should rejoice that Dr. Rowland J. Atcherley has come forward and proposed "easy and practical tests" for "the benefit of the two classes," and "processes of great accuracy, and requiring considerable experience in their manipulation," to assist the latter.\* It is a pity Dr. Atcherley was not in the field to settle the dispute about the presence of alum in a sample of bread which was reported recently. But perhaps prophets and wise men cannot choose their own advent; the flourish of trumpets must go on. And assuredly such a flourish of trumpets never yet produced such poor pottage. Not only has the learned doctor provided "elaborate processes," which require the skill of a trained analyst for their execution, but he assures us they are the best that science can give at the present time. And more than this the doctor modestly leads us to infer that "some of these processes" owe the light to his own skill or industry. To crown all we learn from the preface that the concluding pages, which treat of the preparation of a few standard volumetric solutions, have been "carefully compiled for the benefit of the professional chemist." We fear Dr. Atcherley has a poor opinion of the qualifications of a professional analyst; nor can he have much respect for the acumen of the purveyor or dealer if he imagines that much attention will be paid to his autediluvian rhetoric about Venetian red, peroxide of iron, and other exploded bugbears. According to this book, curry sauce and paste, bloater paste, cayenne pepper, cheese, fry, cocoa, coffee, lentil flour, and tea are all supposed to be adulterated with Venetian red, red lead, or the like, while the water of Paris is so common that it is a wonder we are not turned into plaster casts. One feature of the book consists in a special process for the detection of *picric acid in beer*, while in describing the process for detecting alum in bread no mention is made of the many precautions necessary. In the article on the author states that malted barley and hops are the only materials allowed by law to be used in the manufacture of beer. Dr. Atcherley takes the trouble to look for chalk and lead in milk, while he is of opinion that "the addition of sugar is best detected by its specific gravity." Lastly, we may mention that the carefully compiled description of volumetric solutions and their applications contains mention only of five examples, viz., oxalic acid, sodium hydrate, nitrate of silver, manganate of potassium, and copper.

The second edition of Professor Tuson's "Veterinary Pharmacopœia"† has appeared. It seems to have been carefully revised, and presents in concise form many excellent veterinary maxims and much information. Drawn up according to the model of the British Pharmacopœia, the author has studiously adapted it to veterinary requirements, and though it necessarily shows that much of the matter, as for example the preparation of chemicals, is merely a repetition of the standard Pharmacopœia, yet there is quite enough of special information to justify the appearance of the second edition of such a book. The additions to the volume are neither many nor generally of great importance. We notice that chloral hydrate has been introduced, the dose of which Professor Tuson gives at 10 to 30 grains for dogs; 1 to 2 drachms for sheep and pigs;  $\frac{1}{4}$  to  $\frac{1}{2}$  ounce for horses; and  $\frac{1}{4}$  to 1 ounce for cattle. Kouso has been included also, and Cape Aloes secures a seat beside its Barbadoes brother. A lotion of carbolic acid (1 drachm to 6 to 12 ounces of water) has been given for foot-rot, mange, and generally for unhealthy sores. It may, perhaps, be interesting to add that Professor Tuson gives the dose of arca for horses at almost exactly the same, and for dogs at much less than the Medical Council has fixed it for the upper classes of the animal kingdom. We are also told that the medicinal properties of the nuts depend upon tannic and gallic acids, a statement which it seems likely to be inaccurate.

A little volume compiled by Mr. W. Southall has been published as a guide to the well-known cabinets of "Materia Medica" issued by the firm of Southall, Son & Dymond. A somewhat novel feature in the book, and with the principle of which we entirely agree, is the division of the class *Dicotyledones* into three divisions only, viz.:—*Polypetalæ*, *Corollifloræ*, and *Malvifloræ*, and the subdivision of *Polypetalæ* into two series, *Thalamifloræ* and *Calycifloræ*. This system is much more con-

sistent than the classification now in common use, in which *Erogenæ* are at once divided into *Thalamifloræ*, *Calycifloræ*, *Corollifloræ*, and *Monochlamydeæ*. Diagnoses of the more important natural orders are given, and Mr. Southall also gives a few examples for study after each, and such examples as are within the easy reach of all. Another useful feature which attracts our attention is that after the enumeration of the articles contained in the Pharmacopœia derived from a certain order, brief notices are also given of non-official plants of that order that are more or less used in medicine. Some exception may be taken to the opening paragraph of the book. We are here told that cotyledonous plants are those that possess manifest staminate and pistulate flowers: we find no mention of hermaphrodite flowers, yet we venture to assert that plants possessing them form the larger portion of the whole vegetable kingdom. A considerable improvement might have been effected in the book by more detailed methods than those of the Pharmacopœia being given for obtaining the various products; but Mr. Southall's volume will certainly be found useful as a handy companion to students while practically examining the various articles of the "Materia Medica."

### ANNUAL REPORT OF THE PHARMACEUTICAL COUNCIL, 1873-4.

THE year of office on which your Council have now to report has been marked by some important changes, concerning which it is satisfactory to have this opportunity of conferring with the general body of the Society.

Not forgetting the fact that the Pharmaceutical Society was established "for the purpose of advancing chemistry and pharmacy, and promoting an uniform system of education of those who should practise the same," your Council have, after due deliberation, so altered the course and conduct of the educational establishment committed to their care as to bring it more strictly into accord with the altered circumstances of the Society.

In 1841, and for some years after, it was absolutely necessary, in promoting pharmaceutical education, that the Pharmaceutical Society should itself provide a school, there being no systematic course of instruction then in existence whereby students could acquire that amount of professional knowledge which the founders had declared to be absolutely necessary, as well for the safety of the public as for the advancement of pharmacy. But as that advancement, promoted by the efforts of the Society, became recognised by the medical profession, and by the legislature as a natural sequence, circumstances very materially changed.

The Charter of 1843 established the Society on a permanent basis, but left it a voluntary institution. It gave power to the Council to fix the qualification of members, and to examine all candidates for admission; but as membership of the Society secured no privileges beyond the bounds of the body corporate, it mattered little to a chemist and druggist, so far as the right to carry on his business was concerned, whether he enrolled himself as a member or not.

The Pharmacy Act of 1852 carried matters a little further by creating and protecting the title of Pharmaceutical Chemist—a title which became so recognised and appreciated by the public as to acquire a material value.

Although the assumption of that title was voluntary, and consequently education was voluntary also, this may be said to have been the commencement of the change in the position of the Society to which allusion has been made.

In the year 1868, an immense addition was made to the powers of the Pharmaceutical Society; so great indeed that no person could, after the Pharmacy Act of that date came into full operation, "sell, or keep open shop for retailing, dispensing, or compounding poisons, or assume or use the title 'Chemist and Druggist,'" unless previously examined and registered according to the provisions of that Act.

This was the crowning point in the change which had been going on from the foundation of the Society. Membership of the Society was still voluntary, but examination was compulsory, and therefore education became necessary to enable a man to commence business. In the meantime other public opportunities of studying chemistry and pharmacy had arisen, and as attendance at a special school was not enforced by law,

\* "Adulterations of Food, with Short Processes for their Detection." By ROWLAND J. ATCHERLEY, Ph.D., F.C.S. W. Isbister & Co.  
† "Veterinary Pharmacopœia." By RICHARD V. TUSON, Professor of Chemistry, &c., at the Royal Veterinary College. London: Churchill.



it became a question whether the Society should continue commercially interested in one from which students would pass to an Examining Board appointed by its own Council.

The further question arose whether at the present time it was desirable to continue or discontinue the practice of giving instruction to students at an unremunerative charge. Such a system in the early days of the Society was wise, politic, and even necessary; but the propriety of its continuance had become problematical.

In considering these matters the Council decided that, although it was one of the objects of the Society to promote Pharmaceutical education, it was not its duty to defray the cost of educating young men coming into the trade.

In carrying out this decision, it was however desirable to give the fullest effect to the appliances for education existing in Bloomsbury Square, and to ensure a school at which students might have the means of obtaining the necessary instruction under the Professors who had hitherto so ably conducted the classes.

The proceedings of the Council respecting the new arrangements have been fully reported. They may be summarised by the assurance that, whilst relinquishing all contingent financial advantage and reducing the outlay of the funds of the Society to a definite annual charge, the Council still retains its controlling authority over the system of instruction pursued in the School.

The Finance Report now before you must not be taken as a guide to calculate the future cost of the School of Pharmacy; it is the statement of the receipts and expenditure of the year 1873, and consequently embraces part of a session under the old system.

It is yet too early to judge of the results likely to arise from the recent change. The number of students attending the lectures in both classes has been below the average of former years, but in the earnestness of their endeavours to profit by the instruction given, a marked improvement has been reported. In the laboratory, Professor Attfield has had the usual average number in his class.

Your Council have observed with regret a large number of failures among the candidates presenting themselves for examination.

Month after month the examiners have been engaged for three, four, or even six days, and though many good men passed, a very large percentage of the candidates has been rejected.

Time, it is hoped, will correct this state of things, which throws so much additional and unpleasant labour on the examiners, and is so discreditable to the candidates.

The Council would once more urge upon masters the desirability of requiring all youths, before entering upon their apprenticeship, to pass the Preliminary Examination, or an examination by one of the recognised Boards now working in all parts of the country.

Were such a custom general, a better hope would exist that the young men introduced into pharmacy would, by their proved superior school training, be capable of pursuing their pharmaceutical studies to such good purpose as to be able to pass the Minor and the Major Examinations with credit, and that thus this somewhat unfortunate condition of things would disappear.

It is of the utmost importance in the future of the Society that the Major Examination should be passed, as from pharmaceutical chemists alone can examiners be chosen, and, after a certain time, members of the Council elected.

An important change has been effected in conducting the Preliminary Examinations.

Nearly five years ago, in order to save candidates the trouble and expense of a journey to London and Edinburgh, it was arranged that by means of written papers sent from the Boards of Examiners the examination might take place, so far as the candidates were concerned, in any town in which a local secretary of the Society resided. Objections arose to this system, and after very careful consideration of the subject and a due investigation as to the requirements of each district, certain centres have been chosen at which these examinations will in future be conducted. It was deemed right that the candidates, instead of being brought to the house of a local secretary, should assemble in some room elsewhere, convenient for the purpose, thus removing the liability of the superintendent being interrupted in his supervision by the ordinary calls of business; and that the persons superintending these examinations should

be in some slight way remunerated for their trouble. This will add weight and value to the examinations without causing unreasonable trouble to the candidates.

It will be remembered that some years since the library was thrown open in the evening, but as so few readers attended the practice was discontinued.

Recently, however, the "early closing" movement has spread among chemists, and in the hope that assistants and apprentices liberated earlier from business would take advantage of the time so gained for reading and study, the Council resolved to place, not only the library, but more recently the museum also at their disposal, from 7 to 10 o'clock, p.m.

To render the library available for the use of the Society as far as possible, the librarian has been authorised to defray the cost of carriage of books borrowed by members and associates in business residing in the country; either to them or from them, as may be most convenient; the circulation of books has thereby been increased.

A new and complete catalogue of the library has been published; one of the museum, enriched by short descriptive notes, is in course of preparation.

A proposition to found scholarships from the funds of the Society has recently engaged the attention of the Council, such scholarships to include a complete course of instruction in the Society's school and a money grant of some definite amount towards the necessary expenses of the student during the term. It has been suggested that young men throughout the country would be stimulated by the hope of gaining at once an honourable distinction and the means of prosecuting their studies in the laboratory at Bloomsbury Square, that education would thereby be generally advanced, and therefore that the necessary outlay would be a justifiable expenditure of the means at disposal. The question is most important, and the mention of it in this report will probably elicit an expression of opinion at the annual meeting, which will enable your future Council to judge whether or not the measure would be sufficiently appreciated to justify its adoption.

It will be seen by the financial report that the donations and subscriptions to the Benevolent Fund in 1873 did not exceed, indeed, did not quite equal, those of 1872. Your Council regret that there is not a more general support in a matter so important, not only to members of the Society, but to all on the register of chemists and druggists. In the correspondence which has appeared in the *Journal* respecting this fund, some of the writers have stated their opinion that there is no necessity to subscribe to it; others attribute to the Council a parsimonious spirit in administering relief to the necessitous. Your Council may say with confidence that no deserving case has ever been denied relief.

It must have been observed by the discussions in the Council that some members are anxious to enlarge the number of annuitants, departing from the hitherto prevailing custom of electing no more than the interest on the invested capital will provide for, making the permanence of their annuities in fact dependent on the annual subscriptions. The decision on this point will, of course, be in the hands of the incoming Council, who will be called on next month to "determine as to the expediency (financially) of electing pensioners in the month of October."

A pensioner once elected should never be allowed to doubt the permanence of the grant, and to prevent that doubt arising, if the new proposition be accepted, the subscriptions must, by sustained effort, be kept up, as the funded capital must ever remain intact. This is indeed a weighty matter for consideration.

During the past year prosecutions have taken place under the Adulteration Act, and an interpretation has been put on some of its clauses contrary in spirit to the intention of the promoters of the Bill when before Parliament. It would be in entire opposition to the principles of the Pharmaceutical Society to connive at the sophistication of drugs, or even to encourage the use of those of an inferior quality, but it must have been observed with regret that vexatious proceedings have been instituted in which some of the magisterial decisions, although technically right, have been equitably wrong.

There is some probability that an amendment of the Act will be made in due time, as the matter has been brought forcibly before the Government, and a Select Committee of the House of Commons has been appointed to inquire into the subject. It will be the duty of your Council to submit to that Committee a representation of those points in the Act which press unfairly on chemists and druggists.

The "Juries' Act Amendment Bill" brought in by the



ney-General last session fell through, but another has been introduced to the House of Commons which contains a clause exempting chemists and druggists from service on juries. Notice has been given by Sir John Lubbock of his intention to introduce a "Shop Hours Regulation Bill." That must also be watched to prevent the passing of any such restrictions which he would have placed on trade in his bill of 1873.

The obituary of the Society for the past year shows but too fully that death has been active amongst us. In addition to the loss of an unusually large number of members, we are also deprived of the good counsels of some of our earliest friends and able and zealous supporters—of men who assisted at the foundation, and largely contributed to the successful rearing of the superstructure of this society. No less than four who formerly held seats at this Council have passed away during the year. Mr. Lea, of Worcester, who for four years was an active member; Mr. Meggeson, whose services to the Society, particularly on the Finance Committee, will be remembered, was so well known that his name must be familiar to all; Mr. Morson, and Mr. Deane.

The two last-named gentlemen were so actively engaged, and long conspicuous in the interests of pharmacy, not only as members of Council, but also as examiners, that more than a

passing allusion to them is demanded. It may be said they were both men of world-wide reputation, and all must join in lamenting the loss in them of two of the brightest ornaments that ever adorned our ranks, two in whose practice the trade of a chemist and druggist was indeed raised to a profession.

When they first became connected with the drug trade it was overcast by the dark shade of ignorance, but their were not minds to rest content in that gloom, and by their inherent love of science, and wisdom in applying science to the common things of life, they were mainly instrumental in dispelling it.

Men of a less generous spirit would have been content with a position rendered the more distinguished by their superiority to the generality of their fellows. Not so Mr. Morson and Mr. Deane. As soon as the opportunity offered, they, with William Allen, Jacob Bell, and others—some whom we have lost, some whom we yet retain among us—worked nobly through the means of this Society to elevate all chemists and druggists to the higher level which they now occupy, and, although not for the last few years members of Council, never ceased in their interest for the well-being of the Pharmaceutical Society, in which their names must ever be held dear, and your Council cannot close this report without thus placing on record a tribute to their memory.

Dr.

Financial Statement, from January 1 to December 31, 1873.

Cr.

	£	s.	d.	£	s.	d.
Balance in Treasurer's hands, January 1, 1873	..	..	..	836	14	3
Balance in Secretary's hands, January 1, 1873	..	..	..	29	14	8
Members' Fund:—						
Fees	..	..	..	5	5	0
Interest	..	..	..	88	13	9
				93	18	9
Government Securities:—						
Interest	..	..	..	427	5	2
Sale of £700 New Three per Cents.	..	..	..	639	13	6
				1066	18	8
Subscriptions:—						
1848 Members, Pharmaceutical Chemists	..	..	..	1940	8	0
778 " Chemists and Druggists..	..	..	..	816	18	0
54 Entrance Fees	..	..	..	113	8	0
371 Associates in Business	..	..	..	389	11	0
681 Associates not in Business	..	..	..	357	10	6
727 Apprentices	..	..	..	381	13	6
				3999	9	0
Arrears	..	..	..	56	14	0
Interest on Arrears	..	..	..	7	14	0
Administration Fees:—						
54 Pharmaceutical Chemists, Major Examination	..	..	..	283	10	0
456 Chemists and Druggists, Minor Examination	..	..	..	1436	8	0
75 Chemists and Druggists Modified Examination	..	..	..	78	15	0
821 Apprentices, Preliminary Examination	..	..	..	1724	2	0
123 Examination Fees	..	..	..	1179	3	0
27 Registration Fees as Chemists and Druggists	..	..	..	141	15	0
3 Restoration Fees	..	..	..	3	3	0
16 Jury Certificates	..	..	..	0	10	0
				4847	6	0
Laboratory:—						
Fees	..	..	..	412	5	0
Breakages	..	..	..	5	19	7
				418	4	7
Stationery Fees	..	..	..	49	7	0
Stationery—Sale of printed matter	..	..	..	29	18	10
Stationery—Sales	..	..	..	158	10	0

	£	s.	d.	£	s.	d.
Advertisements	..	..	..	..	..	1 8 6
Annuity—Dr. Redwood	..	..	..	..	..	100 0 0
Carriage	..	..	..	..	..	3 7 9
Certificates of death	..	..	..	..	..	11 4 3
Commission—Collecting Subscriptions (London)	..	..	..	..	..	40 0 0
Conversazione	..	..	..	219	4	6
Pharmaceutical Meetings	..	..	..	25	11	10
				244	16	4
Examiners, Boards of:—						
England and Wales	..	..	..	1246	8	1
Scotland	..	..	..	147	6	6
				1393	14	7
Deputation to the Board in Scotland	..	..	..	32	18	8
				1426	13	3
Fixtures and Fittings	..	..	..	..	..	88 16 9
Furniture	..	..	..	..	..	30 14 2
Government Securities—Purchase of 2,500l. New Three per Cents.	..	..	..	..	..	2312 19 0
Grants to Provincial Associations	..	..	..	..	..	40 0 0
House Expenses	..	..	..	..	..	206 14 2
Journal—Balance of Account	..	..	..	..	..	985 17 1
Laboratory:—						
Net cost to the Society, including Salaries, &c., to end of Session 1872-3	..	..	..	..	..	534 0 4
Chemicals, &c. do. do.	..	..	..	..	..	201 15 5
Law Costs	..	..	..	..	..	163 18 11
Lectures:—						
Professor of Chemistry and Pharmacy	..	..	..	300	0	0
Professor of Botany and Materia Medica	..	..	..	300	0	0
Subscription to Royal Botanic Gardens	..	..	..	21	0	0
Prize Medals, Chemicals, Diagrams, Drawings, &c.	..	..	..	50	13	8
				671	13	8
Library	..	..	..	..	..	54 5 4
Museum:—						
Curator's Salary	..	..	..	150	0	6
Specimens and Sundries	..	..	..	52	13	7
				202	18	7
Expense of the Society in Scotland—Grants for current expenses made during 1873	..	..	..	..	..	142 9 4
Postage	..	..	..	..	..	256 1 5
Repairs and Alterations	..	..	..	..	..	767 18 9
Rent, Rates, Taxes, and Insurance	..	..	..	..	..	394 9 4
Returned Subscriptions to Associates	..	..	..	..	..	23 15 6
Stationery, Engraving, Printing, and Office Expenses	..	..	..	..	..	429 2 9
Salaries:—						
Secretary and Registrar	..	..	..	450	0	0
Assistant Secretary	..	..	..	237	10	0
Clerks and Servants	..	..	..	767	17	9
				1455	7	9
Messrs. Johnson, Cooper, and Wintle (Accountants)	..	..	..	..	..	15 15 0
Sundries	..	..	..	..	..	22 13 2
Register—Cost of Publication	..	..	..	..	..	195 11 6
Travelling Expenses (Country Members of Council)	..	..	..	..	..	331 2 6
Refreshments for Council	..	..	..	..	..	47 1 4
Local Secretaries' Expenses	..	..	..	..	..	10 4 1
Balance in Treasurer's hands (December 31, 1873)	..	..	..	..	..	162 2 9
Balance in Secretary's hands (December 31, 1873)	..	..	..	..	..	20 3 1

## THREATENED GENERAL STRIKE IN THE TYNE CHEMICAL TRADE.

LAST week a number of workmen at the chemical works on Tynemouth side turned out on strike, against the proposed reduction of wages, and the remainder, whose notices terminate on Friday, will in all probability leave their work. The trade is greatly depressed, there being very little demand at present rates, which, however, are much lower than they were. The reduction is 10 per cent. on the present wages, and notice has been given to the workmen at the Newcastle Chemical Works Company (Limited); H. L. Pattison & Co.; C. Tennant & Co.; T. Burnett & Co.; the Felling Coal, Iron and Chemical Company (Limited); Cook Brothers; the St. Bede Chemical Company; S. Mease & Co.; John Lomas & Co., Jarrow. The men, however, refuse to accept the reduction. The notices have expired at the low works of the Newcastle Chemical Works Company (Limited); C. Tennant & Company; the Felling Coal, Iron, and Chemical Company (Limited); Cook Brothers—and the men on these works are now on strike. It is supposed that the other works will also be closed at the expiration of the notices.

## CHEMICAL SOCIETY.

Thursday, April 16, 1874.

PROCEEDINGS of the Chemical Society. Professor Odling, F.R.S., in the chair.

After the ordinary business of the society had been transacted, Dr. A. W. Tilden read a paper "On Aqua Regia and the Nitrosyl Chlorides." He finds that when the gases evolved on gently heating aqua regia are passed into concentrated sulphuric acid a product is obtained which, at a low temperature, deposits crystals of nitrosyl sulphate,  $\text{NOHSO}_4$ . Both these crystals and the liquid, when mixed with sodium chloride and gently heated, evolve nitryl chloride,  $\text{NOCl}$ , an orange yellow gas which may be condensed to a deep orange red liquid, boiling at  $8^\circ \text{C}$ . The author could not obtain the dichloride  $\text{NOCl}_2$ , which Gay-Lussac supposed to exist, but which he believes to be merely a solution of chlorine in the monochloride.

Dr. C. R. A. Wright then read a paper on "Isomeric Terpenes and their Derivatives. Part IV.: § 1. On Cajeput Oil," by C. R. A. Wright and T. Lambert. It was found that the cajeputol,  $\text{C}_{10}\text{H}_{18}\text{O}$ , boiling at  $176^\circ$ – $179^\circ \text{C}$ ., obtained from oil of Cajeput, combines with bromine, forming the compound  $\text{C}_{10}\text{H}_{18}\text{Br}_2\text{O}$ . On heating this it splits up into cymene,  $\text{C}_{10}\text{H}_{14}$ , hydrobromic acid and water. "§ 2. Action of Pentasulphide of Phosphorus on Terpenes and their Derivatives," by C. R. A. Wright. When cajeputol is treated with the pentasulphide it yields a mixture of terpene and cymene, the latter being formed by a secondary action of the pentasulphide on the terpene. This was shown to be the case by treating the terpene from oil of turpentine and hesperidene with the pentasulphide, when cymene was formed in both cases.

Thursday, May 7, 1874.

Professor Odling, F.R.S., President, in the chair. After the customary business, four papers were communicated to the society, the first "On the action of Ammonia on Phenyl and Cresyl Chloracetamide," was read in French by the author, Dr. D. Tommasi. The second was entitled "Researches on the Action of the Copper Zinc Couple on Organic Bodies. Part VII.: On the Chlorides of Ethylidene and Ethylene," by J. H. Gladstone, F.R.S., and A. Tribe, F.C.S. The author finds that these two isomerides behave differently when treated with the couple, the latter splitting up into ethylene and chlorine, whilst the former gives zinc chloroethylate,  $\left. \begin{matrix} \text{C}_2\text{H}_5\text{O} \\ \text{Cl} \end{matrix} \right\} \text{Zn}$ . Mr. Charles E. Groves then read a "Note on the Preparation of Ethyl

Chloride and its Homologues." He finds that when hydrochloric acid is passed into a boiling solution of zinc chloride in alcohol the latter is completely converted into ethyl chloride; other alcohols, such as the methyl and amyl, under similar treatment, yield the corresponding chloride. The process was shown in action during the reading of the paper. The last communication was a "Note on a New Mineral from New Caledonia," by Mr. A. Livingside. The meeting finally adjourned until Thursday, May 21, when there will be a lecture on "The Sewage Question from a Chemical Point of View," by Dr. W. H. Corfield.

## Obituary.

ALLEN.—April 4, Mr. James Hore Allen, Pharmaceutical Chemist, of Union Street, Torquay.

BIRDWHISTLE.—March 31, Mr. Samuel Birdwhistle, of Oldham Road, Manchester.

BYLES.—April 13, Mr. James Hodge Byles, of Hackney Road, London.

COLES.—March 27, Mr. Henry William Coles, Chemist and Druggist, of Poplar, London.

COTTON.—March 31, Mr. John Lovering Cotton, Pharmaceutical Chemist, of London Road, Liverpool.

CROSTON.—April 21, Mr. John Croston, Chemist and Druggist of Atherton, Lancashire.

FOSTER.—January 25, Mr. James Foster, Chemist and Druggist, of Bradford, Yorkshire.

GRUNDY.—December 19, 1873, Mr. Dennis Grundy, Chemist and Druggist, of Bury.

KELLETT.—March 6, Mr. James Kellett, Chemist and Druggist, of Wigan.

HOWELL.—February 19, Mr. David Howell, Chemist, Camarthen, aged 45 years.

LISTER.—April 14, Mr. Edward Lister, Chemist and Druggist of Cowbridge.

NICHOL.—March 18, Mr. Robert Gordou Nichol, Chemist and Druggist, of Lauder, N.B.

PINDER.—April 9, Mr. Samuel Pinder, Chemist and Druggist of Laxton, Notts.

POSTILL.—January 15, Mr. Edward Postill, Chemist and Druggist, of York.

TOOKE.—April 14, of consumption, George Stannard Tooke, of Bracondale, Norwich, aged 19.

WATSON.—February 27, Mrs. Ann Watson, Chemist and Druggist, of Anfield Plain, Gateshead-on-Tyne.

WELCHER.—March 3, Mr. Robert Mitchell Welch, Chemist and Druggist, of Chatteris, Cambridge.

YOUNGER.—April 5, Mr. Thomas Younger, Chemist and Druggist, of Brompton, Cumberland.





## THE EXAMINATIONS.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—Permit me to avail myself of the benefit of your columns to make a few enquiries concerning the *modus operandi* employed in conducting the pharmaceutical examinations, and what *actual* basis the results are determined.

Taking, for example, the examination on *dispensing*, it seems to me that is no test of the ability or information possessed by a candidate, but a trial of nerve and memory, in which a man of good nerve will far excel another of more nervous temperament, but who, perhaps, behind the counter is a much better man of business. In this I think a most unfair advantage is taken of the natural nervousness which almost any young man would feel on finding himself for the first time before a board of examiners; to trip him up with catch prescriptions and illegible writing, frequently calling for preparations which are seldom used, and seldom thought of, and by testing the memory of the candidate by desiring him to make his preparations without reference to the dispensatory, suppositories. This I call grossly unfair, and, for the reason I have before mentioned, not the sort of thing calculated to make the society many friends.

Another fact to which I would turn your attention is, that not infrequently young men presenting themselves for examination are asked where they have been prepared. With what motive this question is put it is not for me to assert, but I could most respectfully suggest to the board of examiners that it is no business of theirs how the candidate became possessed of the necessary information, providing he has it. I would rather suggest that if it is the determination of the examiners to reject all candidates who have been prepared at other schools, then that of the society they may as well do so without acting the empty farce of a mock examination, and also keep to the synopsis published of the examination, especially in the chemistry—the "minor."

I read with alarm the continued reports of the examinations, showing the very small proportion of successful candidates, and my anxiety to find out why so many fail is the occasion of this letter. I certainly think that the society is making the examinations far too scientific ever to be of any use, and losing sight of the important fact, that all those young men have to earn their living by business, which they are obliged to neglect while preparing for the board.

It is likely that my observations will be challenged, and I shall be told, that by elevating the standard of our profession must materially improve the position of its members: in reply, I appeal to any man of experience in the trade to tell me if he thinks the remuneration adequate to the amount of education and outlay already necessary. With an apology for thus encroaching on your space,

I am, yours obediently,

SPATULA.

## A CHEMISTS' CLUB.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—On receiving your valuable journal, as also that emanating from Bloomsbury Square, my first impulse is to turn to the corner for correspondents, where I almost invariably find something interesting. I place more confidence in these letters than in the leading articles, because I know they are entirely free from "red tape."

In the *Pharmaceutical Journal* of January 3, the editor winds up his *résumé* with the remarks, that "the prospects of the future appear to have three leading characteristics—better education, increased remuneration, and shorter hours of business." If he had added Sunday trading he would have included the principal subject on which I propose to say a few words.

There is little to be said on the subject of "better education."

That is progressing favourably, both as regards the "preliminary" and "minor," and I think after October the examinations will be everything that can be desired, and not so exposed as they have been hitherto to the evils of cram. I would merely suggest that every apprentice should pass the preliminary (or other examination accepted in lieu thereof) before ever entering a chemist's shop; and that in the Pharmacy section of the minor examination more importance should be attached to a good knowledge of manipulation than to the parrot-like ability to say straight off "Cinnamon, nutmeg, saffron and cloves, cardamoms, sugar, and chalk," &c. I also think more attention might be given to the dispensing, and that plasters should be spread in a separate room if necessary.

With regard to remuneration, both as regards prices obtained for prescriptions and salaries paid to assistants, there is room for vast improvement. The prescription prices are ridiculously low and void of all uniformity. Making pills, which takes as long again as a mixture, and is a dirtier and heavier task, and requires very often more experience, is charged about half the price! Plasters, too, are charged much too little, considering the time required to turn one out properly. I cannot help thinking that were proprietors to obtain more satisfactory prices for their labour they would soon be able to better pay their assistants.

The long hours and Sunday trading are the most serious blot on our calling, I will not say profession, as some of my "brothers in arms" are anxious to dignify it, for, as a friend of mine once observed, "It will never be called a profession as long as you keep open on Sundays to sell bottles of perfume and tooth-brushes."

Under the plea of necessity an assistant is kept at work all day on Sunday serving all who come with anything they ask for, instead of simply being on duty to supply articles of urgent need (to do which no assistant would ever think of complaining). After nearly twelve years' experience in leading houses, I have never lived with a chemist, nor had a friend who did, nor ever heard of any of the leading chemists, refusing to supply anything that might be asked for. The fact is, the majority of masters rather like the opportunity of seven days' receipts, never entering the shop themselves, but being careful to carry "the big book," satisfying their conscience with the plea of "necessity," and leaving the poor assistant to do the work. I can safely say from experience that nine-tenths of what is done on Sundays is not needed, or at all events might be supplied on the Saturday, and I maintain that the chemist, notwithstanding his plea of necessity, is as much guilty of Sunday trading as any of our poorer brethren in the New Cut.

My remarks on Sunday trading may be considered rather severe, but as a member of the calling, and one having the interest of the trade at heart, I cannot help feeling it a disgrace for a body of educated men to keep open shop on the Lord's Day like any proprietor of a tobacco and snuff shop.

Doubtless, while many proprietors secretly like this trading, there are many conscientious, upright men who loathe it, but at the same time do not see their way clear to stop the evil.

I think the fault lies in the chemists generally keeping themselves to themselves so much, and I cannot help thinking if masters were to see more of each other out of business, and were to meet their assistants when the rigid formality of shop can be dispensed with, it would conduce greatly to the harmony and benefit of the trade at large. And now for the remedy—a club! But how to start it? that's the rub! There is great difficulty in the way, because the natural starters of the club are necessarily engaged in business from early morning until late at night—that is another evil, of which more anon—so that it is difficult to get a meeting of the assistant chemists, who probably get out only one night a week, and still more difficult to get a good working committee. Unless the masters will take the initiative we must depend upon our brethren in the wholesale, who have their Saturday afternoon, and have finished work at 6 o'clock every evening. Although there are serious difficulties in the way, I think that by the cordial co-operation of employers and employed the thing might be managed, and I feel satisfied that it would be a long step towards lessening the other grievances that we with just cause complain of. My proposition, then, is this—Let the club be as central as possible. Let every member within a certain radius pay 2*l.* 2*s.* entrance fee and a yearly subscription of 1*l.* Let every member outside the radius, but within twelve miles of the club, pay 2*l.* 2*s.* entrance fee, with a yearly subscription of 10*s.* 6*d.*; and let every country member pay an entrance fee of



1*l.* 1*s.*, and a yearly subscription of 10*s.* 6*d.*; and let every member not on the register as a chemist and druggist pay an entrance fee of not more than 5*l.* 5*s.*, with an annual subscription of 1*l.* 1*s.*, subject to the discretion of the committee.

Let there be reading and smoking rooms, and a large room suitable for public entertainments. I feel certain that this reunion would be for the advantage of the members and the trade generally, who could meet and discuss trade matters over their pipes, without the formality there must necessarily be at Bloomsbury Square.

I am inclined to think the shortening of the hours on week days is a much more difficult matter, at least as far as London is concerned, for, as an assistant in a West End house, I know how hard we have to work to get clear at 9 or 9.30, and it very frequently happens that at 10 o'clock we are still hard at it. If we could only educate the public to send their prescriptions earlier in the day we could manage then to get clear at 8 o'clock, if not at 7; but I am not sure whether it would be better to appeal to the good nature of the public by letters sent to the leading daily papers, or whether it would not be better to appeal at once to their pockets by charging double price for everything supplied between the hours of 8 p.m. and 8 a.m. on week days, and between the hours of 9 p.m. on Saturday and 8 a.m. on Monday, or else charge a fixed fee in addition to the ordinary price of the article supplied. I would make an exception in new prescriptions of medical men, which I think should be attended to as at present. No one objects to cases of real necessity, but to sit behind the shop door to supply any and everything at any time because "medicine can be obtained by ringing the bell" is really getting too great a nuisance to be borne much longer, and as the masters do not trouble anything about it, for reasons that I have already noticed, I think it high time the assistants made some stir in the matter.

I think, then, in conclusion, that with better education, shorter hours of business, and no Sunday trading, we should all be benefited alike; that by unity and good fellowship we should be better able to command higher prices, and consequently masters would be in a better position to adequately compensate their assistants for knowledge, time and labour spent in their service, and that the first step in that direction would be to set on a firm footing "The Chemists' Club."

Although I have penned these lines from an assistant's point of view, I have endeavoured to express my thoughts as impartially as possible, always keeping in mind the fact that though an assistant to-day, to-morrow I may be an employer, and I am convinced that what I have advocated would benefit all alike.

Yours, &c.,

HOPEFUL.

### WHY THEY HAVE TO SEARCH FOR AN ASSISTANT.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—No doubt employers are finding it difficult to procure good assistants, but the blame should not be laid altogether at our door. I have been an assistant for 18 years, and can safely say I never left a situation without giving satisfaction. I will give a few samples of situations I have had the honour to apply for, and which may, no doubt, account for your correspondent being "In Search of an Assistant":—

1st.—I applied for a situation in the neighbourhood of Kingsland. Hours, 7.30 a.m. until 11 p.m.; out-door. Salary, 40*l.* per annum.

2nd.—Hours, 8 to 11. All day on Sunday except once a month. Food, very indifferent. Sleeping apartments, filthy. Salary, 30*l.*

3rd.—Hours, 8 to 11. Bedroom found, and that not large enough to put your box in. Find own food, and Sunday alternately off duty. Salary, 60*l.*

4th.—Hours, 8 to 10. One night a month and alternate Sundays off duty. Sleep all alone in house and have food sent from chop house. Salary, 40*l.*

5th.—Hours, 8 to 8. "Good house of business." Dining room for six of us, about 4 yards by 6 yards. Salary, 35*l.* to 40*l.*

I could mention many others, but think I have said enough to prove we are not wholly to blame. I have tried some of the first houses in London, but as a rule the chief concern of the

principal is to get as much work out of you as possible, and to think as little of your comfort in proportion. I find generally every little hobby you may have is objected to, smoking strictly prohibited, and, in fact, your life made as wretched as possible, both in business and out. When masters try to improve the conditions of their assistants, and make the house more like a home than a prison, then, and not till then, will they be able to obtain good men. They make us cads by the manner in which they treat us, and expect to receive gentlemanly service in exchange. What with trying examinations, frequently to be paid for out of money saved from such small incomes, no wonder at our recommending our younger brothers to steer clear of such a business. What we require, and I believe shall get in time, better pay, shorter hours, home comforts, and respectful treatment from both masters and mistresses.

Yours respectfully,

London.

T. KCUR.

### THE CO-OPERATIVE SOCIETIES AND THE "PHARMACEUTICAL JOURNAL."

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

SIR,—In consequence of advertisements appearing in the columns of the *Pharmaceutical Journal* from the Co-operative Association at Brighton for assistants, I wrote to the editor of that journal the enclosed letter, asking its insertion; but as he has taken no notice of the communication, nor referred to it in any manner, I shall feel obliged if you will kindly give it a place in your number of the 15th inst.

I am, sir, yours obediently,

May 7, 1874.

J. JOHNSON.

TO THE EDITOR OF "THE PHARMACEUTICAL JOURNAL."

SIR,—I was exceedingly surprised to find in your publication of the 15th inst. an advertisement from the Brighton Co-operative Society for assistants to manage their so-called chemist's branch of that society in the fashionable town; and I instinctively enquired whether it was quite consistent with the dignity, as well as the object of the *Pharmaceutical Journal*, to lend itself as a medium for ventilating the wants of this non-descript and (so far as we are concerned) illegal conspiracy, to the common injury of chemists.

I have no desire nor intention to set myself up as a judge to define the duties of the *Pharmaceutical Journal*, but it being the organ of our society and, I presume, the advocate of our mutual interests, I think we may do well to ask whether by inserting such advertisements the Pharmaceutical Society are not sanctioning and giving, as it were, a *locus standi* to persons who have no right or claim to a privilege which exclusively belongs to those who have studied this particular branch of medicine, and therefore recognised in the Pharmacy Act of 1868. There appears to be only one opinion concerning the illegality of this movement, as affecting our interests; and when we see the *Lancet* (March 28, p. 454) directing our attention to the difference and want of energy on the part of the Pharmaceutical Council, becomes a question how far they fulfil the first object for which the Pharmaceutical Society was formed, viz., to look after and jealously guard the interests of the whole body.

It is not to be wondered at that the various calls from the society or behalf of the benevolent fund should meet with such cool responses from the various members, seeing that beyond receiving fees and conducting the examinations it really does nothing which is likely to benefit chemists as a class. It appears to me an anomaly that while private persons are prosecuted by the Society for contravening the Act of 1868, yet this giant monopoly is allowed to go on extending its poisonous influence; aye, and we even allow them to enter our very camp, and, blowing a blast, announce to us that they are in want of more recruits with which to do battle with us. If the Act of 1868 is not of sufficient force to put down this evasion of the law, for what purpose was it passed? and why are such stringent examinations forced upon candidates who present themselves before the board, when by a mere trick or evasion of the law, those who are utterly and absolutely ignorant of everything which relates to our business are permitted to carry on and reap all the pecuniary profit which rightly belongs to those who have adopted this branch of study as a professional calling?

I could say much more, but as my object at present is merely to open a discussion upon a most important subject, I shall feel obliged by your inserting this letter in your next publication, so that the subject may receive proper consideration.

It is not improbable that it may be discussed at our next annual meeting.

I am, sir, yours obediently,

8, Brondesbury Terrace, Kilburn, N.W.,  
April 28, 1874.

J. JOHNSON.



## THE DANGERS OF BENZINE.

TO THE EDITOR OF "THE CHEMIST AND DRUGGIST."

—There is a section of the Petroleum Act under which persons may keep benzine without a license, provided it is kept in vessels holding not more than a pint, and that the aggregate quantity does not exceed three gallons. I took occasion to enquire of my Insurance Company if I might keep benzine under the above conditions, under my policy of "singly hazardous" insurance. They replied in the negative, and on a second application refused to allow me to keep even so small a quantity as a dozen 2-oz. bottles. So that it appears, wishing to keep benzine, I must either pay more insurance, or render my policy void by violating its conditions. The quantity of benzine I sell is very small, under the circumstances I have decided to give up the sale of benzine, and at present sell etherodyne. What would my brother chemists say on this subject?

Yours truly,

CHEMIST.

One may also enquire what have other insurance offices to say to this? We cannot imagine that all of them would be so lenient as the one in which our correspondent insures.—Ed. D.]

## Poisonings.

A man named John Williams, 56 years of age, died at Bristol on April 5, according to the verdict of the coroner's jury which was returned into the case, "from exhaustion, brought about by the excessive use of Woodridge's gout and rheumatic tincture." On the Sunday he took three teaspoonfuls of that remedy in the course of the day. Violent diarrhoea ensued, and continued till Wednesday, when he died. Mr. W. W. Stoddart, city chemist, deposed that the medicine was a preparation of colicium, and Dr. Gloag, who had made a *post-mortem* examination, stated that the symptoms were quite consistent with poisoning from colicium. If we may venture to go one step further than the jury we should say it is not unlikely that the excessive use of the medicine which in their opinion occasioned his death was itself occasioned by the notoriously dangerous habit of prescribing and taking powerful medicines by the tea-

spoon. An extraordinary recovery from aconite poisoning is reported in the *Australian Medical Gazette*. A man 40 years of age, under treatment for rheumatism, took a tablespoonful of aconite liniment, B.P., and made it up for an internal remedy. An emetic of sulphate of copper was administered, followed by draughts of warm water. Mr. Penfold saw him about an hour after this, and a few minutes later the man apparently died. The pulse and breathing ceased; the heart's beating could not be heard, the jaw dropped. Faradisation of the neck and artificial respiration were tried for some time, probably three or four minutes, but without success. Then a hypodermic injection of liq. ammoniac and water, one part in three, was injected into the left cephalic vein, just at the bend of the neck. Just a faint trickle of thin dark blood escaped from the needle vein; almost directly there was an improvement, and the pulse could presently be felt at the wrist. The same amount of ammonia, about thirty minims, was injected again, the wound covered by a piece of lint and bandage. It gave trouble in healing afterwards. Next, the stomach was washed out with milk, and some milk and charcoal given to him when he was able to swallow. Vomiting continued more severely for some hours, but the patient was practically recovered next day. It is probable that in this instance the ammonia acted beneficially in causing the heart to beat again, prolonging the patient's life, and so giving time for the poison to be eliminated, and not acting as a direct antidote.

A woman, aged 38, has died at Lincoln from an overdose of chloral hydrate. She had been for some time past in the habit of taking various narcotics, and lately had become a slave to

chloral-drinking, which she took frequently, and in large doses, as much as 80 grains at a time. The servant of the deceased on the day of her death had fetched two ounces of syrup of chloral from two different chemists, and when the deceased asked her to fetch a third dose refused to do so. The deceased thereupon started to obtain it herself, and in a little time was brought back dead, having been found dead or dying in the streets. The druggist who supplied one of the doses of chloral stated, in answer to the coroner, "that it was not his custom to label hydrate of chloral as poison, nor to sell it under the regulations required on the sale of poisonous drugs. His reason for omitting so to label it was because it was not mentioned in the list of poisons which were required to be labelled." The Coroner has since addressed himself to the President of the Medical Council with the object of getting this medicine included in the schedule.

A Liverpool servant girl, 22 years of age, named Caroline Anderson, in the employ of Mr. Fairclough, a baker, went into a beerhouse, called for a bottle of ginger beer, drank it, and in a few minutes fell from her seat and died. A paper labelled "Vermin destroyer: Poison," was found where she had been sitting. *Post-mortem* examination revealed strychnine, and evidence was also given that the girl was suspected of having stolen money in order to make presents to a young man with whom she was keeping company. When the virtuous young man learned that she was so suspected he declined to continue the acquaintance. The jury declined to give other than an open verdict.

On May 5 a tailor at Leicester, named Thomas Baines, who was in business difficulties, poisoned himself by taking a quantity of Scheele's acid. He obtained the poison from the shop of Mr. Josiah Jackson, chemist, Humberstone Road, and had been served by Jabez Jackson, an apprentice who had served in the business for three-and-a-half years. The apprentice stated that deceased had stated that he wanted the acid to clean a silk dress. He gave him two drams, and charged him eightpence for it. Deceased asked witness to sign the book for him, as his own hand trembled very much. He was, however, perfectly sober. The coroner cautioned the apprentice to be more particular, and the jury returned a verdict of temporary insanity.

Two American actors narrowly escaped being poisoned to death while acting in a melodrama. In a scene where revellers were clustered about a bar, they clinked their goblets and emptied them of a pale yellow fluid resembling whiskey in colour. One hurried off the stage apparently in great agony, the other fell on the floor in convulsions, and the manager announced that the actors had accidentally taken poison. It seems that the property man had hired some show-bottles from an hotel for the bar-room scene, the water in one of which was coloured with bichromate of potash, and the other with red cochineal. Those who drank from the cochineal bottle escaped unharmed, the others suffered great agony all night; but with medical attention they were sufficiently recovered next day to proceed with the other members of the company.

A very extraordinary case of double suicide by poison has occurred at Paris. A young man named Hall, and his wife, natives of Bath, were found dead in their bed in a hotel, where they were staying. No reason is assigned for the extraordinary conduct of the young couple, further than the fact that the young man's indisposition and impaired circumstances had preyed on his mind.

A barber named Everatt, living at Newcastle-on-Tyne, procured in small quantities from various chemists about 2 ozs. of laudanum, which having taken, he soon became unconscious. The stomach pump, the galvanic battery, and other means likely to prove beneficial, were used, but without success. He died shortly afterwards. He had been drinking heavily for about a fortnight.

An inquest was held at Carlisle on the 7th inst. on the body of the wife of Dr. Walker, who, while alone, had inhaled chloroform from a handkerchief on account of toothache, and died of suffocation. Verdict, accidental death.





REVISED TERMS.—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word.

If name and address are not included, one penny per word must be paid. A number will then be attached to the advertisement by the Publisher of the CHEMIST AND DRUGGIST, and all correspondence relating to it must be addressed to the "Publisher of the CHEMIST AND DRUGGIST, Colonial Buildings, Cannon Street, London, E.C.," the envelope to be endorsed also with the number. The publisher will transmit the correspondence to the advertiser, and with that his share in the transaction will cease.

#### FOR DISPOSAL.

Cocoa Meal for cattle. 4 cwt. Offers wanted. 12/233.

A set of tooth forceps. T. E. Smith, Dentist, West Bromwich.

Two "Elam's Feeders," complete. Offers wanted. No. 19/233.

Shop Stove, japanned tin covered pots,  $\frac{1}{2}$  lb. 1-lb.; 5-gr. pill machine. W. H. Solomon, 107 Stafford Street, Hanley.

2 cwt. Pulv Zingib Jam, 1s. lb.; offers for whole. Samples, 2d. stamps. Merchant, 60 Silchester Road, Notting Hill, W.

14 lbs. gum opii. ture. opt., 27s.; 7 lbs. pot. iodid., 16s. 6d.; 7 lbs. fine honeycomb sponge, 8s. Geo. Drury, Southwell.

Complete set of books for Preliminary. Apply, Liebig, 3 Wood Hill, Northampton.

"Latin Grammar," "Cæsar," "English Grammar," "Arithmetic," lot 6s. R., 2 Parade, Northampton.

Southall's "Materia Medica" Cabinet, new. Take offers. Nemo, Wootton, Northampton.

Offers wanted for 3 gallons prime old mushroom ketchup. Smith, chemist, Crediton.

Southall's "Materia Medica" Cabinet. Last edition. Quite new. With notes on the envelopes. Cost 30s. Price 20s. Statim, 107 Stafford Street, Hanley.

5 gross soda water bottles, with Dow's & Co's clasps; one Dow's & Co's bottling machine; Trayser's Diapason Harmonium, cost 16l. 16s. What offers. 12/234.

"Pharmaceutical Journals," unbound, from commencement of 3rd series to present date. Complete. What offers. R. Carson, Lindley, Iluddersfield.

For sale, a six by four Water Bed (Hooper's), with bellows and sheet, cost last Nov. 14l. 14s., price 5l. T. F. S., 46 All Saints' Road, W.

Druggists' shelving, 200 feet for sale, mahogany edges; two three-gallon carboys, door lamp, &c. Barnard, Barnet Street, Columbia Market.

The "Pharmaceutical Journal" from its commencement to the end of this year, clean and perfect, 25 vols., bound, for 9l., or offers. 2/234.

Complete soda-water plant—except generator, gasometer, and solution pan. A bargain. Can be seen at 10 Bow Churchyard, London.

Braham & Co's cohesive cement, 1 doz. 2s., and 2 doz. each 1s. and 6d., the lot for 31s. 6d., or will exchange for saleable patents. J. T. Chapman, 162 Deansgate, Manchester.

A very handsome pair of Counter Scales, box and beams. Height of brass pedestal, including ornamental brass knobs, 27 inches. In perfect condition. Cost 60s.; price 30s. H. Story, 43 Fish Street Hill, E.C.

Tincture press, quart, Maw's fig. 1, 7s.; air pump, 6l. 6s.; Newton's, 4l. 4s.; "Pharmaceutical Journals," 1854 to 1872 4d. each, post free in any number. Griffiths, Cornhill Bridgewater.

Druitt's "Surgeon's Vade Mecum," 4th edition; Sir William Fergusson's "Practical Surgery," second edition. Both books well bound; the two for 10s. J. E. G., 241 High Street, Bangor.

Price 2s. 6d., a collection of Prescriptions for difficult emulsions, pills, &c., which have been given in the dispensing portion of the Minor Examination. "Omega," Gazette office East Grinstead.

Avery's Brass Counter Scales, 14-inch beam, on mahogany stand, with drawers. Brass weights. Price 30s. Pan scale, weigh halfpound downwards. Price 6s. 6d. Offers requested. T. A. Stead, Chemist, Lees, near Manchester.

3 W. M. Show Jars, with gilt covers (34 inches high). 3 Upright Carboys, with spiral cut stoppers, each holding 12 gallons. 3 Upright Carboys, holding 12 gallons. Price or inspection apply to W. Green, 40 Strand, W.C.

Stock and fittings; gold labelled bottles, jars, &c.; earthenware jars, drawers with glass handles, glass cases, small varied stock suited to a beginner; value about 80l., cash. W. Steward, Seedsman, 31 Old Town Street, Plymouth.

"Pharmaceutical Journal" from 1841 to the present date, vols. 1 to 21, bound in cloth, the rest in numbers, are complete in good order. To be disposed of by tender. Tender to be sent in on or before August 1, to Messrs. Smart & Allen, wholesale booksellers, London House Yard, London, E.C.

Offers for electric machine, glass cylinder, 10 in. by 19 in. (cheap); 3-pint gazogene, nearly new, 10s.; 12 machine, 4s.; 12 syrup bottles 20 oz.; 11 Maw's 4" jar fig. 1, white; 3 pear-shaped carboys; 6 doz. shop bottles (labels good). Flinders, Chemist, Upper Street, Islington.

Bentley's "Botany," 8s. 6d.; Cooley's "Recipes," second edition well bound, nearly new, 14s.; Gray's "Supplement Pharmacopœia," 5th edition, 7s. (published 14s.); Hooker's "British Flora," 6s. (published 12s.); Hooker's "Smith's Introduction to Botany" (36 plates), 7s. (published 16s.); Thornton's "Elements, Botany," 2 vols. in 1, about 100 plates, 5s.; Fowne's "Chemistry" (9th), 6s.; Walker's "On Inter-marriage," scarce, 18s. Part carriage. "Chemist," Church Street, Hadleigh, Suffolk.

Ryan's "Midwifery," fourth edition, 40 plates, 10s. 6d.; Smellie's "Midwifery," 40 plates, 2 vols., 6s.; Pereira's "Materia Medica," 2 vols., 1839, 7s. 6d.; Quain's "Anatomy," 4s.; Main's "Vegetable Physiology," 3s. (published 8s.); Abernethy's "Surgical and Physiological Essay," 3s.; Cooper's "Dictionary Practical Surgery," wants binding, 3s. 6d.; Thomas Guernsey's "Homœopathic Practice," 2s. 6d.; Bourguery's "Minor Surgery," 3s. 6d. A. Davis, 161 Seven Sisters' Road, London, N.



m's "British Flora." New. Uncut. 1,295 engravings. vols. 31s. 6d. (Published at 3l. 10s.) Last edition. 1/233.

m's "Flora," new (nearly every plant illustrated), 28s. 6d. (published 3l. 10s.); Dr. Aitkin's "Science and Practice, Medicine," 2 vols., 15s. (published 31s. 6d.); Brass syringe pump (without globe), 12s., cheap; Horsford-Liebig's baking powder (1 dozen 1s., ½-dozen 6d., 7½-dozen 1d.) for 6d., carriage not included for any of above. Halsted, Twickenham.

gallon pear-shaped Carboys with cut-glass stoppers, 4s. each; 1 x 11s. De Roos' Guttæ Vitæ; 1 x 2s. 9d. Barry's copious; about 2 dozen Baudine, various sizes; 1 dozen 2s. 9d. Bauds' Iodine; 4 James' complexion Pills; 1 x 4s. 6d. Johnson's Sarsa. and Bark Pills. All the above pateuts at half the retail price. Butler, Chemist, Cambridge Wells.

ia Medica," 3 vols. Crell's "Chemical Journal," "Pharmaceutical Latin Grammar," "Surgery of the Rectum," "Memoirs of Soyer," "Introduction to Mineralogy, with plates," "On Special Electric Therapeutics," Bateman's "Magnacopea," "French Grammar," "English Peerage," "The Making of Latin," Cassell's "Latin Dictionary," "Elements of Pharmacy," "Waste Products and Undeveloped Substances," "The Scientific American," "Pharmaceutical Journals," "Chemical News," &c. To be sold very low prices. 3/234.

ss 1d. memorandum books (part with calendar 1874, 1 useful information, &c., inside covers) remarkably cheap, 4s. and 5s. gross. Another supply of about 10,000 ss good vial corks, slightly dust-soiled through lying at racks, great bargain, 4d. and 4½d. gross (sample, 2d. corks). 20 lbs. best English beeswax at 1s. 6d. Quantity in cambogia elect. at 3s. lb. 40 lbs. very fine dec. zae. co. conc. (great density) at 3s. 6d. lb. Akhurst Lancaster, 60 Silchester Road, Notting Hill, London, W.

Grinding Mill, pair granite runners, diameter 5 feet 6 inches, weight each about 4½ tons; granite bedstone, diameter 7 feet 6 inches, weight about 8 tons; driving shaft, spindle, spur wheels, &c., brasses complete. Cast Iron Pots, 24 inches deep, diameter 26 inches, ½ inch thick, also with handles 9 inches deep, 17 inches diameter, inch thick. Good Stone Tank, iron rivetted, 4 feet x 3 feet x 2 feet inside. Stoneware receivers, by Doulton & Co., capacity 10 gallons, with two connections, plug, suitable for nitric acid manufacture. Centrifugal Drying Machine, all iron, complete, inner diameter 3 feet. Persons wanted. Apply to R. W. S. Griffith, Schultze Gunpowder Company, near Lyndhurst, Hants.

old labelled and engraved shop bottles; blue, white, and shop jars; 72 half, two 4-lb. topaz colour shop jars, 2 vases; 5 handsome gold labelled specie jars; 30 new jars; 36 one, two, four-gallon upright, pear-shaped carboys; upright and carboy black glass stock-bottles, 100 caps; 300 composition, marble, granite, glass, iron mortars and pestles, all sizes; 150 composition, earthenware, glass funnels and calico-strainers; 21 iron and brass mortar stands; one gallon stone percolator; 50 mahogany 1 and test-tube stands; 2 busts Hahnemann; pair 24-lb. beam scales; counter dispensing scales; 3 mahogany show enclosures; side counter with cupboards, shelving above; quantity shelving, cornices, trusses, &c.; 25 feet mahogany shop fittings, similarly fitted as 202 Maw's catalogue; 5 bent, 6 upright, 7 flat mahogany show cases; mahogany, silvered, plate-glass show stand; soda water stand with marble slab; upright cases with desks; hand-tooth brush show case; 3 sets tooth instruments; dentists' show case; eight 4, 5-grain pill machines; superior cream soda water machine; 2 nests shop drawers; marble slabs; pill tiles; 24 one-gallon brown jars, 1 japan covers. Lloyd Rayner, 309 New North Road, Finsbury, London.

A six-cell battery, Smee's, with coil and large pewter syringe, to take acid out, 2l., cost 5l.; one gallon stone filter with brass tap, 5s.; acid drop machine, 20s.; a set of Trome's forceps in handsome mahogany box, lock and key, 35s.; printing press to print 7 x 5 and 5 x 3, with type, &c., 10s.; sixteen shares in the Leicestershire and North of England Insurance Company, Limited, fully paid up, paying a dividend of five per cent. No further risk. Open to offers. 3/234.

Large and convenient sloping Sponge Case, with mahogany and plate glass doors, having lock and key, in 5 divisions, lined with zinc. Centre division, 24 x 26 x 15 and 10; 4 divisions 11½ x 26 x 15 and 10; total length 6 feet, height 2 feet 5 inches, breadth from back to front at top 10 inches, bottom 15 inches. Mahogany and bent plate-glass case to fit upon top of sponge case, 6 feet long, 8½ inches back to front, 6 inches deep at back. One, fig. 43 Maw's Case in excellent condition. Semicircular imitation bronze bracket with polished marble slab for soda-water stand, diameter 3 feet, 2nd section 18 inches. 11/233.

### WANTED.

A 16-pint cast-iron mortar; bell-shaped. "Alpha," 13 Whitefriar-gate, Hull.

Empty olive oil jars. State number and price. Hammond, Chemist, Witham, Hull.

Plate-glass case for side of shop; state height, length, price, &c. H. B., 15 Flowergate, Whitby.

"Youatt on the Horse," or an equally good work. Vet., Stonebroom, Alfreton.

A handsome outside mortar. A neat "Teeth Extracted" tablet. 3/233.

3-gr. pill machine, rotary pill machine, Vol. II. Parts 1 and 2 "Pereira," ½ gal. tinct. press. W. H. Solomon, 107 Stafford Street, Hanley.

A nest of mahogany fronted drawers, from 10 to 12 feet long, with lockers beneath. Walton & Co., Chemists, Richmond Yorkshire.

Pereira's "Selecta a Præscriptis," and last edition (Latin) "London Pharmacopœia," also spare breasts for 1s. 6d. mamma feeders. M'Iver, Chemist, Dingwall.

DR. LYNN.—Pharmacutists who are seeking a subject for investigation will find abundant opportunity for the exercise of their keenest faculties if they visit Dr. Lynn at the Egyptian Hall and seek to discover "how it's done." The dexterity of this accomplished performer is marvellous, but it is equalled by the wit and sparkle of his never-ceasing conversation.

PARCHMENT PAPER.—Immerse blotting paper for a second or two in diluted sulphuric acid, then rinse it thoroughly in several changes of water and hang it up to dry. When dry, if it has crumpled or has a wrinkled appearance, it can be removed by wetting it and straining it upon a glass plate, the edges being made to wrap over the plate.

PROFESSOR COOK'S BAUME DE VIE (New York).—This is a prophylactic medicine said to possess remarkable virtues. It is thus composed:—

Borax, 20 parts,  
Boiling water, 250 parts,  
Camphor in powder, 1½ part.

Let it cool and filter. A table spoonful morning and evening. Dumas has found that borax possesses remarkable anti-fermentive properties.



## Druggists' Sundries.

The Royal Irish Academy has granted to Messrs. Draper & Moss the sum of 30*l.* towards their researches on Selenium.

Sulphur comes from volcanoes, and is consequently good for eruptions.

The *Boston Journal of Chemistry* suggests as a motto for the temperance crusado, " $\text{H}_2\text{O}$ ! every one that thirsteth!"

Why is it impossible to have the last word with a chemist? Because he always has a retort.

GREAT CHEMICAL FEAT (BY SIR G. W.).—Getting gold out of Coffee.—*Punch*.

The chemists and druggists of Brigg have decided upon closing their shops throughout the year at seven o'clock, except on Saturdays. [A Brigg-ht idea.]

DISPENSATORIAL PARADOX.—The other day a pharmaceutical chemist and druggist told his assistant that he could dispense with his services. Since then he has dispensed without them.—*Judy*.

Referring to the prosecutions in Glasgow for selling adulterated scammony, the *British Medical Journal* tells its readers that two kinds of scammony are sold in Glasgow, namely, Aleppo and Virginia!

They are still pushing on with the cultivation of opium in certain parts of the colony of Victoria. According to the Melbourne *Argus*, Mr. Bosisto, chemist, of Richmond, has recently received a large parcel from Messrs. Turpin & Sons, of Alpine Valley. He reports it to be equal to the choicest Smyrna, yielding 10 per cent. of morphia.

POISONED AT A CHEMICAL LECTURE.—A very tragic occurrence took place recently at Bucharest. Dr. Bernath, the principal of a public laboratory in that city, was giving a popular lecture on chemistry. Among his hearers was a Madame Davila, a lady of good family and intimately acquainted with the professor. The lady was taken ill in the course of the lecture, and the doctor prepared a draught for her in which he intended to mix some quinine, but by accident used strychnine instead. The unfortunate victim was taken out into the street, and died almost instantly.

An extremely sharp and intelligent American gentleman from the West once walked into the office of Dr. C. T. Jackson, of New York. "Dr. Jackson, I presume?" "Yes, sir." "May I lock the door?" And he did so. Then, having looked behind the sofa, and satisfied himself that no one else was in the room, he placed a large bundle, done up in a yellow handkerchief, on the table, and opened it. "There, doctor, look at that!" "Well," said the doctor, "I see it." "What do you call that, doctor?" "I call it iron pyrites." "What!" said the man; "isn't that stuff gold?" "No," said the doctor, "it's good for nothing: it's pyrites." And putting some over the fire in a shovel, it soon evaporated up the chimney. "Well," said the gentlemanly man, with a woe-begone look, "there's a widow up in our town has a whole hill full of that, and I've been and married her."

PURE AS THE DRIVEN SNOW.—Dr. Edwards, of Montreal (well known in English pharmaceutical circles), has given a serious fright to his fellow countrymen, unless they are as science-hardened as we are here. One will naturally expect that the learned doctor has discovered lead in some new form, but the anticipation in this case, though reasonable, would be inaccurate. According to the *Montreal Star*, Dr. Edwards has addressed a communication to the mayor of that city on the subject of the refuse covered up by the snow on the streets, which eventually, he thinks, will be desiccated by March winds, distributed as fine dust in the houses, and inhaled on the streets. He says that he finds that, within an hour or two of melting, the snow water contains a swarm of living organisms, including most of the infusory animalculæ and a variety of worms and vibriones, a teaspoonful becoming, in fact, a miniature aquarium, and a few grains of the dust mentioned containing more filth, animal life, and germs of disease than a block of ice 600 pounds in weight. Dr. Edwards urges the board of health of the city to remove this unwelcome nuisance from the streets more promptly and efficiently.

## Trade Memoranda.

Mr. W. H. Holden, of Yarmouth, has purchased the business of Mr. Priestley (late Harwood), of Newport Street, Bolton.

Preece's Patent Candle Company has announced a profit of 19,546*l.* for the year. A dividend of 10*s.* per share was declared.

We observe that the consequence of the split between the proprietors of "Condy's Fluid" has been the formation of Condy's-Fluid Company by one of the partners in the firm.

Messrs. Robinson & Sons, Chesterfield, have received medal of the London Annual International Exhibition for year for the exhibit of their well-known "Surgeon's Lint Bandages." We understand the sale of their lints has increased very much during the last few years.

Mr. W. Hooper, of Pall Mall, manufacturer of Indian goods and mineral waters, and wholesale and retail druggist, just admitted into partnership his son, Mr. W. E. L. Hooper, Mr. Edward Mann, and Mr. Clifford Probyn. The two named gentlemen have for many years been actively engaged in the business. The style of the new firm will be Hooper Company.

The Australian meat trade has collaterally developed a new industry. Meat only being exported, bones accumulated inconveniently; but the value of these for manure was too obvious, and Melbourne shippers are now sending to London cargo of bone dust, which has been most ingeniously pressed into cakes like bricks, occupying only about half the cubic space of the dust. By this means considerable expense of freight is saved.

There could hardly have been a severer test of the quality of water filters than the recent Ashantee war; therefore the testimony of the Commander-in-Chief of that expedition is of peculiar interest. The following has been received by Silicated Carbon Filter Company:—"War-Office, Pall Mall, May 5, 1874. Sir,—I am desired by Major-General Garnet Wolseley to reply to your letter of the 7th inst. The filters supplied by the Silicated Carbon Filter Company during the Ashantee expedition answered very well, and Sir Garnet Wolseley has no suggestions to offer for improvement. Yours faithfully, signed, Charles Morton. Silicated Carbon Filter Company, Church Road, Battersea."

### A NEW PLATE POWDER.

"LA BRILLIANTE" is a French plate powder neatly put up in tin boxes to sell at sixpence. It is cheap and good. Messrs. Morgan, Allsopp, & Co., of Cannon Street, are agents in Great Britain.

### WYNDHAM'S "ESPRIT DES ŒUFS."

A PREPARATION which, while it must not be forgotten that it is a *spirituous* medicine, is so combined with eggs that the stimulant properties of alcohol can be administered in as delicate a form as can be obtained.

### PAPIER MOURE RESERVOIRS.

MESSRS. S. MAW, SON, & THOMPSON introduce as a novelty for the season various styles of japanned tin reservoirs, by means of which one or two fly papers can be stretched on a suitable surface and will keep themselves damp through the long summer days.

### THE "CANNON" SMELLING BOTTLE.

The very attractive "Canuou" Smelling Bottle, adapted for salts and vinegar, lately introduced by Messrs. S. Maw, Son & Thompson, is now provided with a wheeled carriage, which takes off the *vraisemblance* of the bottle, and is also a handsome ornament.

### LANE'S AMERICAN SHINER.

CHEMISTS who care to sell a thoroughly satisfactory furniture polish should make a trial of that made by Messrs. Lane & Beeston, of Southampton, under the above title. With labour this preparation leaves a brilliant polish on all kinds of furniture, and it has the advantage of being more free from smell than many similar articles. Messrs. Lynch & Co. are London agents.



## SPRAY-PRODUCER FOR THE THROAT.

BOURNE & TAYLOR have manufactured a spray-pro-  
sightly modified from their usual pattern, with the object  
ing the spray of any required medicinal agent to the  
The modification consists only of an elongation of the  
Such an apparatus will no doubt prove serviceable.

## ELLIS'S DROPPING STOPPERS.

ELLIS & Co. have now made their useful dropping  
inking stoppers in such a form as to present a flat  
at the top of the bottle, so as to allow a label to  
d over it. The object is especially to provide a  
suitable for the Eau de Cologne bottles, and a greater  
ment to them than the addition of this stopper can  
be imagined.

## PETERS' ARGENTUM.

SOME-looking shilling's worth of marking ink is Peters  
n. In order to give a little variety Mr. Peters has  
ed" a new stretcher. Its novelty seems to consist  
its shape, which is oblong, and in its size, which is  
Mr. Peters also claims that his ink always contains  
nt. of silver, and that it is in hermetically-sealed and  
ic bottles, thus ensuring its "staying" qualities. If  
do it, Mr. Peters will make a permanent mark on

## Codd's BOTTLES.

of the value of Codd's stoppers for aerated waters  
tees some time ago shipped a case of seltzer water by  
ship—the *Highflyer*—with orders "To be returned un-  
The *Highflyer* made a complete circuit of the globe,  
Australia via the Cape of Good Hope, and returning  
Horn. Upon arriving in London, the case was opened  
Custom House authorities, when every bottle was found  
ly good condition, though they had travelled a distance  
miles.

## NEW PRESTONS.

that some improvement was made in the old-fashioned  
all bottles which linger so pertinaciously among us.  
ynch & Co. have supplied the deficiency. We are all  
with the half-destroyed and ammonia-blackened cork  
usually fills up a part of the neck of the time-  
smelling bottle, but which makes but little pretension  
the ammonia in or the air out. Messrs. Lynch's idea,  
patented, is to supply instead a neatly-turned wooden  
which is fitted with an indiarubber ring so fixed that while  
easily upwards or downwards so that the stopper can be  
inserted or withdrawn, it is held in a groove from which  
slip off. This gives a simple air-tight stopper which  
is fixed, and which cannot be acted upon by the contents  
etc. We should think the principle might be applied  
troublesome stoppers.



unprofitable work at which the heavy chemical manufac-  
ers have been engaged for so long past has at last  
about a crisis. The proprietors of the chief works in  
astle district resolved on a reduction of 10 per cent. in  
of wages. One notice was given to the operatives, at  
ation of which, last Saturday, some 3,000 of them  
ork. Meanwhile a stronger tone has been imparted to  
t, and it is not unlikely that if the men had a union,  
hold out for a couple of months, the masters would  
ive way. But a week or two will most probably decide  
gle, and the men will have to submit to the reduction of  
their incomes.

ker demand for alkali has set in from abroad, and home  
eeps well up to the mark. No improvement, however,

is yet reported in price. As an indication of the position of the  
market we may mention that the exports of this product during  
April, 1874, were 2,000 tons in excess of those of April,  
1873, but that the declared value was 15,500*l.* less.

Bleaching powder is dearer, and is scarce and firm.

The fall in quinine induced a considerable demand, which  
soon occasioned an advance. Makers now ask 7*s.* 6*d.*, and de-  
cline forward orders.

Some sanguine people imagined that the favorable news  
from Spain as to the relief of Bilbao might react on the price of  
quicksilver, but that metal has distinguished itself by a quiet  
persistence at the heavy figure of 19*l.* 15*s.*

There was nothing in the Budget which could affect these  
markets. The use of sugar in the manufacture of oxalic acid  
has been almost universally abandoned in favour of the more  
economical substitute, saw-dust. We believe that one only of  
the chief makers still clings to the old process. His product  
commands an extra price, but it is questionable whether any  
chemical advantage is secured.

The slight fall in citric acid can hardly be taken as an indi-  
cation of better things. It seems entirely due to the weakness  
of one or two second-hand holders.

Cream of tartar is worth more in Italy than in London.  
The coming summer may therefore find this article pro-  
gressive.

As usual, at this season, reports from Smyrna announce al-  
most hopeless prospects for the next opium crop. It is said that  
the winter has been colder than has been known for a quarter  
of a century, and that such severe weather has nearly ruined the  
development of the poppies. These reports are received by  
dealers with a curious indifference, and the quotations for the  
guni are nominally the same as they have stood at for some  
months past. The great variety of Turkey opium which is  
offered in London may be judged of from the fact that at the  
last public sales cases of an article so designed sold at prices  
varying from 7*s.* to 21*s.* 6*d.*, while some was bought in at 34*s.*  
At the same sales good balsam copaiba was held at 2*s.* 10*d.*;  
cinchona barks were fairly demanded; Genoa cream of tartar  
was held for 112*s.*; Chili honey sold at 44*s.*; Jamaica at 42*s.*;  
a bale of Irish moss, rather mixed, went for 16*s.*; other drugs  
generally in fair demand, and at regular prices.

Isinglass of most kinds is 2*d.* a pound dearer. Gum arabic  
unchanged. Shellac is lower, as is also assafoetida.

The quarterly indigo sales in April were rather disappointing  
to sellers. Recently several shiploads of the dye, amounting in  
the aggregate to 20,000 maunds, had gone to the bottom, and  
reports from India indicated that supplies would probably run  
short this year. Consequently there was a very firm tone in  
the market. The first day's sales, aided probably by specu-  
lators, promised well, and an advance of sixpence on the  
January quotations seemed established, but throughout the  
remainder of the week, for no apparent reason, the demand  
languished, and little above former rates could be obtained;  
sometimes even January prices were not offered. Of 10,490  
chests offered something like 5,000 chests were disposed of.

Olive oil has been selling more freely, but at a reduction for  
most kinds. Mr. G. Ainis, of Messina, in his circular of May 2,  
reports that the new olive crop looks so far very promising.  
Cod oil has advanced, but rape has scarcely maintained last  
month's prices. Turpentine has fluctuated, but at this moment  
both American and French are quoted at the very low figure of  
29*s.* 6*d.* to 30*s.* Some Russian spirits were on the market, but  
had to be bought in at 24*s.*



## Monthly Price Current.

The prices quoted in the following list are those actually obtained in Mining Lane for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.

CHEMICALS.		1874.	1873.
ACIDS—		s. d.	s. d.
Acetic .....	per lb.	0 4 to 0 4½	0 4½ to 0 0
Citric .....	per lb.	4 3 .. 0 0	4 6 .. 0 0
Hydrochloric .....	per cwt.	5 0 .. 7 0	4 0 .. 7 0
Nitric .....	per lb.	0 5 .. 0 5½	0 5 .. 0 5½
Oxalic .....	per lb.	0 7 .. 0 0	0 9 .. 0 9½
Sulphuric .....	per lb.	0 0½ .. 0 1	0 0½ .. 0 1
Tartaric crystal ..	per lb.	1 7 .. 1 7½	1 6 .. 1 7
powdered ..	per lb.	1 7 .. 1 7½	1 7 .. 1 7½
ANTIMONY ore .....	per ton	200 0 .. 240 0	240 0 .. 260 0
crude ..	per cwt.	0 0 .. 0 0	0 0 .. 0 0
regulus ..	per cwt.	0 0 .. 0 0	0 0 .. 0 0
star ..	per cwt.	49 0 .. 50 0	60 0 .. 61 0
ARSENIC, lump .....	per cwt.	20 6 .. 0 0	20 6 .. 0 0
powder ..	per cwt.	10 0 .. 10 3	10 6 .. 11 3
BRIMSTONE, rough ..	per ton	127 6 .. 145 0	125 0 .. 145 0
roll ..	per cwt.	9 9 .. 10 0	10 0 .. 0 0
flour ..	per cwt.	11 6 .. 12 6	11 6 .. 12 6
IODINE, dry .....	per oz.	1 0 .. 0 0	1 7 .. 0 0
IVORY BLACK, dry ..	per cwt.	8 6 .. 0 0	8 6 .. 0 0
MAGNESIA, calcined ..	per lb.	1 6 .. 0 0	1 6 .. 0 0
MERCURY .....	per bottle	395 0 .. 0 0	275 0 .. 280 0
MINIUM, red .....	per cwt.	25 0 .. 25 3	21 3 .. 21 6
orange ..	per cwt.	37 0 .. 0 0	32 6 .. 0 0
PRECIPITATE, red ..	per lb.	6 2 .. 0 0	4 7 .. 0 0
white ..	per lb.	6 1 .. 0 0	4 6 .. 0 0
PRUSSIAN BLUE ..	per lb.	0 0 .. 0 0	0 0 .. 0 0
SALTS—		s. d.	s. d.
Alum .....	per ton	172 6 .. 180 0	165 0 .. 0 0
powder ..	per ton	192 6 .. 0 0	185 0 .. 0 0
Ammonia:			
Carbonate .....	per lb.	0 7 .. 0 0	0 7½ .. 0 7½
Hydrochlorate, crude,			
white .....	per ton	650 0 .. 0 0	640 0 .. 0 0
British (see Sal Am.)			
Sulphate .....	per ton	335 0 .. 350 0	345 0 .. 370 0
Argol, Cape .....	per cwt.	87 6 .. 96 0	80 0 .. 90 0
Red ..	per cwt.	75 0 .. 82 6	65 0 .. 76 0
Oporto, red ..	per cwt.	28 0 .. 32 0	32 0 .. 32 6
Sicily ..	per cwt.	52 6 .. 57 6	60 0 .. 70 0
Ashes (see Potash and Soda)			
Bleaching powd. ....	per cwt.	12 0 .. 0 0	12 6 .. 12 9
Borax, crude ..	per cwt.	40 0 .. 85 0	55 0 .. 75 0
British refnd. ..	per cwt.	75 0 .. 0 0	105 0 .. 0 0
Calomel .....	per lb.	5 9 .. 0 0	4 2 .. 0 0
Copper:			
Sulphate .....	per cwt.	27 0 .. 27 6	32 0 .. 0 0
Copperas, green ..	per ton	60 0 .. 62 6	60 0 .. 62 6
Corrosive Sublimate p. lb.		5 0 .. 0 0	3 6 .. 0 0
Cr. Tartar, French, p. cwt.		111 0 .. 112 0	107 6 .. 0 0
brown ..	per cwt.	95 0 .. 100 0	90 0 .. 97 6
Epsom Salts .....	per cwt.	5 9 .. 6 3	5 9 .. 6 3
Glauber Salts .....	per cwt.	4 6 .. 5 6	7 6 .. 0 0
Lime:			
Acetate, white, per cwt.		14 6 .. 21 0	14 0 .. 22 6
Magnesia: Carbonate ..	per cwt.	42 6 .. 45 0	42 6 .. 45 0
Potash:			
Bichromate .....	per lb.	0 6½ .. 0 0	0 8½ .. 0 0
Carbonate:			
Potashes, Canada, 1st			
sort .....	per cwt.	36 3 .. 36 6	38 0 .. 38 6
Pearlashes, Canada, 1st			
sort .....	per cwt.	0 0 .. 0 0	51 0 .. 0 0
Chlorate .....	per lb.	0 11½ .. 1 0	1 6 .. 0 0
Prussiate .....	per lb.	1 0½ .. 1 1	1 5 .. 0 0
red ..	per lb.	2 10 .. 2 11	3 1 .. 0 0
Tartrate (see Argol and Cream of Tartar)			
Potassium:			
Chloride .....	per cwt.	6 9 .. 7 0	8 6 .. 9 6
Iodide .....	per lb.	14 9 .. 0 0	25 6 .. 0 0
Quinine:			
Sulphate, British, in			
bottles .....	per oz.	7 6 .. 0 0	8 0 .. 0 0
Sulphate, French ..	per oz.	7 6 .. 0 0	7 9 .. 7 10
Sal Acetos .....	per lb.	0 10 .. 0 10½	1 1½ .. 0 0
Sal Ammoniac, Brit. cwt.		44 0 .. 45 0	48 0 .. 49 0
Saltpetre:			
Bengal, 6 per cent. or			
under .....	per cwt.	19 6 .. 21 0	27 9 .. 29 0
Bengal, over 6 per cent.			
per cwt.		17 0 .. 19 0	27 0 .. 27 6
British, refined ..	per cwt.	26 9 .. 27 6	31 8 .. 32 6
Soda Bicarbonate, p. cwt.		15 9 .. 0 0	19 0 .. 0 0
Carbonate:			
Soda Ash .....	per deg.	0 2½ .. 0 0	0 3 .. 0 0
Soda Crystals per ton		102 6 .. 0 0	127 6 .. 150 0
Hyposulphite, per cwt.		0 0 .. 0 0	15 6 .. 16 0
Nitrate .....	per cwt.	11 7 .. 12 0	15 0 .. 15 6
SUGAR OF LEAD, White cwt.		47 0 .. 48 0	45 6 .. 0 0
SUGAR OF LEAD, Brown, cwt.		32 6 .. 33 0	30 0 .. 0 0
SULPHUR (see Brimstone)			

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VERDIONIS .....		per lb.	s. d.
VERMILION, English	per lb.	5 4 to 5 6	1 1½ to 1 2
China	per lb.	5 0 .. 0 0	4 2 .. 4 4
DRUGS.		s. d.	s. d.
ALOE, Hepatic .....	per cwt.	80 0 .. 200 0	80 0 .. 200 0
Socotrine ..	per cwt.	105 0 .. 200 0	160 0 .. 200 0
Cape, good ..	per cwt.	38 0 .. 40 0	30 0 .. 32 0
Inferior ..	per cwt.	25 0 .. 37 0	20 0 .. 22 0
Barbadoes ..	per cwt.	65 0 .. 190 0	70 0 .. 190 0
AMBERGRIS, grey .....	per oz.	0 0 .. 0 0	27 0 .. 30 0
BALSAM—		s. d.	s. d.
Canada .....	per lb.	2 8 .. 2 10	3 0 .. 0 0
Socotrine ..	per lb.	2 8 .. 2 10	2 8 .. 0 0
Capivi .....	per lb.	8 1 .. 0 0	9 3 .. 0 0
Peru .....	per lb.	2 4 .. 2 6	1 11 .. 0 0
BARKS—		s. d.	s. d.
Canella alba .....	per cwt.	12 0 .. 24 0	15 0 .. 24 0
Cascarilla .....	per cwt.	25 0 .. 30 0	26 0 .. 30 0
Peru, crown & grey per lb.		0 10 .. 2 8	1 0 .. 2 8
Calisaya, flat ..	per lb.	2 10 .. 4 0	3 0 .. 4 0
quill ..	per lb.	2 8 .. 4 0	3 3 .. 4 0
Carthagena ..	per lb.	0 9 .. 2 0	0 10 .. 2 0
E. I. ..	per lb.	0 6 .. 4 0	0 4 .. 4 0
Pitayo ..	per lb.	0 6 .. 2 0	0 4 .. 2 0
Red ..	per lb.	1 7 .. 3 0	1 10 .. 3 0
Buchu Leaves .....	per lb.	0 2 .. 1 0½	0 2 .. 1 0½
CAMPHOR, China .....	per cwt.	80 0 .. 82 6	81 0 .. 82 6
Japan ..	per cwt.	85 0 .. 87 6	85 0 .. 87 6
Refin. Eng. per lb.		1 2½ .. 0 0	1 2½ .. 0 0
CANTHARIDES .....	per lb.	2 3 .. 5 0	6 3 .. 5 0
CHAMOMILE FLOWERS p. cwt.		30 0 .. 68 0	40 0 .. 68 0
CASTOREUM .....	per lb.	4 0 .. 20 0	6 0 .. 20 0
DRAGON'S BLOOD, lp. p. cwt.		100 0 .. 250 0	102 6 .. 250 0
FRUITS AND SEEDS (see also Seeds and Nices).		s. d.	s. d.
Anise, China Star per cwt.		110 0 .. 115 0	120 0 .. 125 0
Spanish, &c. ..	per cwt.	12 0 .. 27 0	17 0 .. 27 0
Beans, Tonquin .....	per lb.	1 6 .. 2 4	2 0 .. 2 4
Cardamoms, Malabar			
good .....	per lb.	4 6 .. 5 0	5 0 .. 5 0
inferior ..	per lb.	2 3 .. 4 0	3 6 .. 4 0
Madras ..	per lb.	2 0 .. 3 9	2 0 .. 3 9
Ceylon ..	per lb.	4 6 .. 4 10	4 9 .. 4 10
Cassia Fistula .....	per cwt.	12 0 .. 18 0	10 0 .. 18 0
Castor Seeds ..	per cwt.	5 0 .. 19 0	5 0 .. 19 0
Cocculus Indicus ..	per cwt.	14 0 .. 15 0	12 0 .. 15 0
Colocynth, apple ..	per lb.	0 4 .. 0 10	0 3 .. 0 10
Croton Seeds .....	per cwt.	43 0 .. 53 0	55 0 .. 53 0
Cubebs .....	per cwt.	23 0 .. 25 0	23 0 .. 25 0
Cumin ..	per cwt.	15 0 .. 22 0	24 0 .. 22 0
Dividivi ..	per cwt.	11 0 .. 15 0	12 0 .. 15 0
Fennigreek ..	per cwt.	8 0 .. 16 0	9 0 .. 16 0
Guinea Grains ..	per cwt.	25 0 .. 26 0	24 0 .. 26 0
Juniper Berries ..	per cwt.	9 0 .. 10 6	16 6 .. 10 6
Nux Vomica ..	per cwt.	7 6 .. 13 0	10 0 .. 13 0
Tamarinds, East India ..	per cwt.	10 0 .. 12 0	5 0 .. 12 0
West India, new ..	per cwt.	14 0 .. 28 0	21 0 .. 28 0
Vanilla, large .....	per lb.	65 0 .. 86 0	60 0 .. 86 0
inferior ..	per lb.	45 0 .. 67 0	30 0 .. 67 0
Wormseed .....	per cwt.	0 0 .. 0 0	0 0 .. 0 0
GINGER, Preserved, in bond			
(duty ½d. per lb.) per lb.		0 6 .. 0 9	0 6 .. 0 9
GUMS (see separate list)		s. d.	s. d.
HONEY Chili .....	per cwt.	32 0 .. 50 0	28 0 .. 50 0
Jamaica ..	per cwt.	40 0 .. 50 0	38 0 .. 50 0
Australian ..	per cwt.	38 0 .. 48 0	20 0 .. 48 0
IPECACUANHA .....	per lb.	2 10 .. 3 4	3 5 .. 3 4
ISINGLASS, Brazil ..	per lb.	3 4 .. 5 0	2 10 .. 5 0
Tongue sort ..	per lb.	3 6 .. 5 6	3 2 .. 5 6
East India ..	per lb.	2 0 .. 5 4	1 4 .. 5 4
West India ..	per lb.	4 2 .. 4 11	4 2 .. 4 11
Russ, long staple ..	per lb.	8 6 .. 12 6	8 0 .. 12 6
inferior ..	per lb.	4 0 .. 8 0	3 6 .. 8 0
Simovia ..	per lb.	3 3 .. 5 0	2 6 .. 5 0
JALAP, good .....	per lb.	1 0 .. 1 1	1 8 .. 1 1
infer. & stems ..	per lb.	0 10 .. 0 11	1 2 .. 0 11
LEMON JUICE .....	per degree	0 2½ .. 0 0	0 2½ .. 0 0
LIME JUICE .....	per gall.	2 6 .. 2 9	0 0 .. 2 9
LIQUORICE, Spanish per cwt.		40 0 .. 70 0	40 0 .. 70 0
Liquorice Root ..	per cwt.	11 0 .. 16 0	10 0 .. 16 0
MANNA, flaky .....	per lb.	2 6 .. 3 0	3 0 .. 3 0
small ..	per lb.	1 2 .. 1 5	1 6 .. 1 5
MUSK, Pod .....	per oz.	18 0 .. 40 0	19 0 .. 40 0
Grain .....	per oz.	45 0 .. 52 0	55 0 .. 52 0
OILS (see also separate list)		s. d.	s. d.
Almond, expressed per lb.		0 11 .. 0 0	1 0 .. 0 0
Castor, 1st pale ..	per lb.	0 0 .. 0 0	0 6 .. 0 0
second ..	per lb.	0 5 .. 0 5½	0 5 .. 0 5½
infer. & dark ..	per lb.	0 4 .. 0 4½	0 4 .. 0 4½
Bombay (in casks) ..	per lb.	0 4½ .. 0 0	0 4½ .. 0 0
Cod Liver .....	per gill.	3 9 .. 5 6	4 0 .. 5 6
Croton .....	per oz.	0 3 .. 0 4	0 3 .. 0 4
Essential Oils:		s. d.	s. d.
Almond .....	per lb.	25 0 .. 0 0	30 0 .. 0 0
Anise-seed .....	per lb.	9 0 .. 0 0	9 3 .. 0 0
Bay .....	per cwt.	0 0 .. 0 0	65 0 .. 0 0
Bergamot .....	per lb.	10 0 .. 24 0	9 0 .. 24 0
Cajeput, (in bond) per oz.		2 3 .. 2 5	0 0 .. 2 5
Caraway .....	per lb.	5 3 .. 6 0	5 6 .. 6 0
Cassia .....	per lb.	4 6 .. 4 9	6 6 .. 4 9
Cinnamon .....	per oz.	0 8 .. 6 0	0 9 .. 6 0
Cinnamon-leaf ..	per lb.	0 2½ .. 0 5	0 3 .. 0 5
Citronelle .....	per lb.	0 12 .. 0 1½	0 2½ .. 0 1½
Clove .....	per lb.	8 9 .. 0 0	5 6 .. 0 0
Juniper .....	per lb.	1 10 .. 2 0	1 3 .. 2 0



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Initial Oils, continued:—	s. d.	s. d.	s. d.	s. d.	s. d.
Avender .....per lb.	1 10 ..	5 0	2 6 ..	5 6	
mon.....	7 0 ..	14 0	12 0 ..	14 6	
mongrass ...per oz.	0 2½ ..	0 0	0 3½ ..	0 0	
troli.....	0 4 ..	0 6	0 5 ..	0 6	
atmeg.....	0 7½ ..	0 7½	0 7½ ..	0 8½	
ange.....per lb.	8 0 ..	10 0	7 0 ..	9 0	
to of Roses....per oz.	15 0 ..	22 0	18 0 ..	25 0	
atchouli.....	3 6 ..	4 0	3 9 ..	4 0	
ppermint:					
American ....per lb.	20 6 ..	22 6	14 6 ..	15 3	
English.....	29 0 ..	32 0	26 0 ..	28 0	
osemary.....	1 4 ..	1 10	1 11 ..	0 0	
ssafras.....	2 3 ..	3 0	3 0 ..	3 8	
earmint.....	6 0 ..	18 0	6 0 ..	20 0	
hyme.....	1 9 ..	2 0	1 10 ..	1 11	
e, expressed ..per oz.	0 3 ..	0 3½	0 1½ ..	0 4	
s, Turkey....per lb.	26 0 ..	28 0	24 0 ..	27 0	
inferior.....	11 0 ..	24 0	12 0 ..	20 0	
TA(bitter wood)per ton	70 0 ..	85 0	85 0 ..	90 0	
ARB, China, good and					
.....per lb.	2 9 ..	5 0	2 9 ..	6 0	
od, mid. to ord. "	0 8 ..	2 7	0 10 ..	2 6	
atch trimmed "	0 0 ..	0 0	8 0 ..	10 0	
ssian.....	0 0 ..	0 0	0 0 ..	0 0	
S—Cahumba...per cwt.	8 0 ..	18 0	15 0 ..	25 0	
.....	18 0 ..	24 0	20 0 ..	27 0	
ngal.....	23 0 ..	24 0	18 0 ..	22 0	
lian.....	17 0 ..	19 0	18 0 ..	0 0	
ebore.....	30 0 ..	33 0	30 0 ..	32 0	
s.....	30 0 ..	70 0	36 0 ..	80 0	
tory.....	38 0 ..	39 0	38 0 ..	39 0	
.....per lb.	1 0 ..	1 3	0 10 ..	1 0	
tany.....	0 5 ..	0 11	0 6 ..	1 2	
ka.....	3 0 ..	3 6	4 9 ..	0 0	
.....	1 4 ..	1 9	1 2 ..	1 3	
on, Spanish ..	24 0 ..	28 0	22 0 ..	29 0	
.....per cwt.	170 0 ..	200 0	170 0 ..	180 0	
PARILLA, Lima per lb.	0 6 ..	0 9	0 6 ..	0 7	
.....	1 0 ..	1 3	1 3 ..	0 0	
uras.....	1 3 ..	1 7	1 1 ..	1 8	
ica.....	1 5 ..	2 3	2 2 ..	2 6	
FRAS.....per cwt.	13 0 ..	15 0	0 0 ..	0 0	
ONY, Virgin ..per lb.	25 0 ..	30 0	26 0 ..	31 0	
nd & ordinary	8 0 ..	24 0	14 0 ..	25 0	
Bombay.....	0 1 ..	0 5	0 2 ..	0 5	
ivelly.....	0 1½ ..	1 0	0 1½ ..	0 10	
andria.....	0 3½ ..	1 5	0 2½ ..	1 0	
ACETI, refined	1 3 ..	1 5	1 6 ..	0 0	
frican.....	1 0 ..	1 1	1 2 ..	1 3	
LS.....	0 1½ ..	0 2	0 1½ ..	0 2	
NIACI drop .. per cwt.	60 0 ..	105 0	85 0 ..	130 0	
lump.....	40 0 ..	75 0	60 0 ..	80 0	
fine washed "	240 0 ..	260 0	250 0 ..	320 0	
bold scraped "	220 0 ..	235 0	210 0 ..	240 0	
sorts.....	120 0 ..	230 0	130 0 ..	230 0	
dark.....	75 0 ..	110 0	80 0 ..	120 0	
E.L., fine	60 0 ..	70 0	65 0 ..	78 0	
e picked ..	70 0 ..	78 0	75 0 ..	84 0	
rts, gd. to fin.	40 0 ..	58 0	55 0 ..	69 0	
arblings ..	20 0 ..	40 0	20 0 ..	45 0	
pick, gd. to fin.	150 0 ..	220 0	160 0 ..	230 0	
second & inf.	80 0 ..	145 0	85 0 ..	150 0	
in sorts ..	45 0 ..	75 0	0 0 ..	0 0	
Gedda.....	20 0 ..	36 0	25 0 ..	42 0	
RY, white ..	26 0 ..	43 0	50 0 ..	57 0	
brown ..	25 0 ..	36 0	37 0 ..	42 0	
ALIAN.....	28 0 ..	45 0	27 0 ..	45 0	
ETIDA, cm. to gd.	26 0 ..	48 0	30 0 ..	90 0	
MIN, 1st qual.	200 0 ..	520 0	160 0 ..	400 0	
2nd ..	150 0 ..	240 0	140 0 ..	210 0	
3rd ..	67 6 ..	80 0	60 0 ..	80 0	
Angola red	112 6 ..	117 6	130 0 ..	140 0	
Benguela	100 0 ..	110 0	110 0 ..	115 0	
Sierra Leone, per lb.	0 4½ ..	0 10½	0 3½ ..	0 8½	
Manilla.....per cwt.	15 0 ..	23 0	15 0 ..	30 0	
AR, pale ..	45 0 ..	50 0	45 0 ..	50 0	
ORBICUM ..	11 0 ..	15 0	12 0 ..	15 0	
ANUM.....per lb.	1 6 ..	2 0	1 6 ..	2 0	
GE, pkd. pipe per cwt.	205 0 ..	280 0	250 0 ..	285 6	
CUM.....per lb.	1 0 ..	2 10	0 8 ..	2 6	
IE, rough ..	50 0 ..	80 0	50 0 ..	85 0	
scraped sorts	24 0 ..	34 0	18 0 ..	25 0	
c, picked ..per lb.	35 0 ..	52 6	26 0 ..	35 0	
l, gd. & fine per cwt.	119 0 ..	250 0	125 0 ..	240 0	
sorts ..	70 0 ..	115 0	70 0 ..	120 0	
NUN, p. sorts	66 0 ..	70 0	66 0 ..	72 0	
umber & ylw.	58 0 ..	65 0	60 0 ..	65 0	
arblings....	23 0 ..	37 0	20 0 ..	40 0	
AL.....	60 0 ..	63 0	63 0 ..	100 0	
RAC.....	85 0 ..	105 0	60 0 ..	95 0	
AC, Orange..	240 0 ..	275 0	187 6 ..	197 6	
Liver ..	220 0 ..	237 0	177 6 ..	185 0	
.....	23 0 ..	24 0	30 0 ..	36 0	
CANTH, leaf	260 0 ..	400 0	270 0 ..	440 0	
in sorts ..	30 0 ..	150 0	60 0 ..	160 0	
pale.....per tun	37 0 ..	0 0	39 0 ..	0 0	
yellow to tinged	32 0 ..	36 0	36 0 ..	38 0	
brown.....	30 0 ..	32 0	33 0 ..	0 0	
.....	104 0 ..	0 0	0 0 ..	0 0	
.....	40 0 ..	40 10	42 0 ..	0 0	

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Oils, continued:—	£ s.	£ s.	£ s.	£ s.	£ s.
WHALE, South Sea, pale, per tun	23 0 ..	0 0	39 0 ..	0 0	
yellow ..	31 10 ..	32 0	37 0 ..	38 0	
brown ..	30 0 ..	31 0	34 0 ..	35 0	
East India, Fish ..	25 10 ..	0 0	28 0 ..	0 0	
OLIVE, Galipoli....per ton	45 0 ..	0 0	43 0 ..	0 0	
Trieste.....	44 0 ..	0 0	41 0 ..	0 0	
Levant ..	38 0 ..	0 0	39 0 ..	0 0	
Mogador ..	37 10 ..	0 0	38 0 ..	0 0	
Spanish ..	40 0 ..	40 10	40 0 ..	0 0	
Sicily ..	40 0 ..	0 0	40 0 ..	0 0	
COCOANUT, Cochin..	38 10 ..	39 0	39 0 ..	39 10	
Ceylon ..	35 0 ..	0 0	34 10 ..	35 0	
Sydney ..	30 0 ..	35 0	28 0 ..	34 0	
GROUND NUT AND GINGELLY:					
Bombay ..	0 0 ..	0 0	0 0 ..	0 0	
Madras ..	35 10 ..	36 0	36 0 ..	0 0	
PALM, fine.....	34 15 ..	35 0	39 0 ..	0 0	
LINSEED.....	0 0 ..	0 0	33 5 ..	0 0	
RAPESEED, English, pale ..	32 0 ..	0 0	39 10 ..	0 0	
brown ..	29 10 ..	0 0	37 10 ..	38 10	
Foreign, pale ..	34 0 ..	0 0	0 0 ..	0 0	
brown ..	0 0 ..	0 0	0 0 ..	0 0	
COTTONSEED.....	25 10 ..	26 0	29 10 ..	30 0	
LARD ..	48 0 ..	49 0	46 10 ..	47 10	
TALLOW ..	26 0 ..	32 0	31 0 ..	0 0	
TURPENTINE, American, cks.	29 6 ..	30 0	39 0 ..	0 0	
French ..	29 6 ..	0 0	38 0 ..	0 0	
PETROLEUM, Crude ..	0 0 ..	0 0	0 0 ..	0 0	
refined, per gall.	0 11½ ..	0 0	1 2½ ..	1 3	
Spirit ..	0 9¾ ..	0 0	0 10 ..	0 10½	
SEEDS.					
CANARY.....per qr.	60 0 ..	66 0	46 0 ..	50 0	
CARAWAY, English per cwt.	0 0 ..	0 0	40 0 ..	44 0	
German, &c....	0 0 ..	0 0	22 0 ..	36 0	
CORIANDER ..	10 0 ..	13 0	12 0 ..	16 0	
HEMP.....per qr.	40 0 ..	42 0	40 0 ..	44 0	
LINSEED, English per qr.	56 0 ..	66 0	50 0 ..	66 0	
Black Sea & Azof	59 0 ..	62 0	60 0 ..	60 6	
Calcutta ..	60 0 ..	0 0	64 0 ..	64 6	
Bombay ..	61 0 ..	0 0	65 6 ..	0 0	
St. Petrsbrg. ..	56 0 ..	57 0	60 0 ..	61 0	
Mnstead, brown ..per bshl.	10 0 ..	15 0	13 0 ..	16 0	
white ..	8 0 ..	11 0	8 0 ..	9 0	
POPPY, East India, per qr.	52 6 ..	0 0	61 0 ..	61 6	
SPICES.					
CASSIA LIGNEA ..per cwt.	63 0 ..	70 0	77 0 ..	81 0	
Vera ..	24 0 ..	60 0	27 0 ..	60 0	
Buds ..	115 0 ..	117 6	117 6 ..	122 6	
CINNAMON, Ceylon:					
1st quality ..per lb.	2 4 ..	3 10	2 3 ..	3 8	
2nd do. ....	2 0 ..	3 3	1 9 ..	3 4	
3rd do. ....	1 6 ..	2 10	1 5 ..	3 0	
Tellicherry ..	0 0 ..	0 0	2 8 ..	3 1	
CLOVES, Penang ..	1 7 ..	1 8	1 0½ ..	1 3	
Amboyna ..	1 3 ..	1 4	0 7½ ..	0 11	
Zanzibar.....	1 3 ..	1 3½	0 8 ..	0 8½	
GINGER, Jam., fine per cwt.	105 0 ..	240 0	110 0 ..	200 0	
Ord. to good ..	55 0 ..	100 0	58 0 ..	100 0	
African ..	47 6 ..	48 6	50 0 ..	0 0	
Bengal.....	45 0 ..	50 0	45 0 ..	0 0	
Malabar ..	44 0 ..	0 0	44 0 ..	0 0	
Cochin ..	65 0 ..	110 0	55 0 ..	120 0	
PEPPER, Blk, Malabar, per lb.	0 6½ ..	0 6½	0 7 ..	0 7½	
Singapore ..	0 5½ ..	0 0	0 7½ ..	0 0	
White Tellicherry	1 6 ..	1 10	0 0 ..	0 0	
Cayenne ..	1 3 ..	1 8	1 0 ..	1 6	
MACE, 1st quality ..	3 3 ..	3 10	3 7 ..	4 0	
2nd and inferior ..	2 4 ..	3 2	3 1 ..	3 6	
NUTMEGS, 78 to 60 to lb.	3 6 ..	4 4	3 0 ..	4 2	
90 to 80 ..	3 4 ..	3 5	2 10 ..	2 11	
132 to 95 ..	2 11 ..	3 3	2 3 ..	2 9	
PIMENTA ..	0 2½ ..	0 0	0 2½ ..	0 0	
VARIOUS PRODUCTS.					
COCHINEAL—					
Honduras, black ..per lb.	2 1 ..	3 0	2 4 ..	3 4	
silver ..	2 1 ..	2 4	2 3 ..	2 6	
pasty ..	1 9 ..	2 0	2 0 ..	2 2	
Mexican, black ..	2 2 ..	2 4	2 5 ..	2 9	
silver.....	1 11 ..	2 0	2 3 ..	0 0	
Teneriffe, black ..	2 1 ..	3 10	2 4 ..	4 2	
silver ..	2 0 ..	2 2½	2 3 ..	2 5	
PUMICE STONE ..per ton	120 0 ..	150 0	120 0 ..	150 0	
SOAP, Castile.....per cwt.	33 0 ..	34 0	33 0 ..	34 0	
SPONGE, Turk. fin. pkd prlb.	12 0 ..	16 0	12 0 ..	16 0	
Fair to good ..	4 0 ..	11 0	4 0 ..	11 0	
Ordinary ..	1 0 ..	3	1 0 ..	3 6	
Bahama ..	0 6 ..	3 6	0 6 ..	2 6	
TERRA JAPONICA—					
Gambier ..per cwt.	24 9 ..	0 0	27 6 ..	0 0	
Free cubes ..	33 0 ..	37 0	37 0 ..	38 0	
Cutch ..	22 3 ..	22 9	21 0 ..	23 0	
WOOD, DYE, Bur ..per ton	£0 0 ..	£0 0	£4 5 ..	£4 10	
Brazil, Branch ..	20 0 ..	26 0	27 0 ..	30 0	
Logs ..	9 0 ..	18 0	9 0 ..	16 0	
Cam.....	21 0 ..	32 0	13 0 ..	23 0	
Fastic, Cuba ..	9 0 ..	9 5	8 5 ..	9 10	
Jamaica ..	6 0 ..	7 0	6 0 ..	6 10	
Log wood, Campeachy..	9 0 ..	9 10	8 5 ..	9 0	
Honduras ..	6 15 ..	6 15	6 5 ..	6 12½	
St. Domingo ..	5 2½ ..	5 10	5 0 ..	5 15	
Jamaica ..	5 2½ ..	5 10	5 2½ ..	5 5	
LIMA, first pile ..	12 10 ..	14 0	9 10 ..	10 0	
RED SANDERS ..	7 0 ..	0 0	6 0 ..	6 10	











